

KV-C2553E/C2953E

RM-816

SERVICE MANUAL

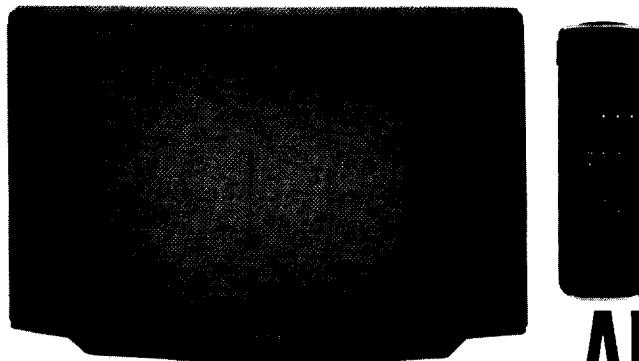
Spanish Model

KV-C2553E

Chassis No. SCC-E22E-A

KV-C2953E

Chassis No. SCC-E22H-A



AE-1C CHASSIS

MODELS OF THE SAME SERIES	
KV-C2553E/C2953E	
KV-A2113E/A2513E	
KV-E2523E/E2923E	

SPECIFICATIONS

【KV-C2553E/C2953E】

Television system	B/G/H	Outputs	21-pin connector: CENELEC standard
Color system	PAL, SECAM, NTSC3.58, NTSC4.43		Headphones jack: stereo minijack
Stereo system	GERMAN /NICAM stereo		External speaker terminals: 2-pin DIN
Channel coverage	VHF: E2-E12 UHF: E21-E69		Audio output jacks: phono jack (output dependent upon TV settings)
	CABLE TV (1) : S1-S41	Sound output	30 W + 30 W
	CABLE TV (2) : S01-S05, M1-M10, U1-U10	Power consumption	97Wh (KV-C2553E) 107Wh (KV-C2953E)
Picture tube	Black Trinitron tube		Approx. 769×495×478 mm (w/h/d) (KV-C2553E)
	Approx. 63.5 cm (25 inches)	Dimensions incl.speakers	Approx. 854×555×510 mm (w/h/d) (KV-C2953E)
	(Approx. 59 cm picture measured diagonally)		
	110 ° -degree deflection		
	Approx. 72.4 cm (29 inches)	Weight incl.speakers	Approx. 38kg (KV-C2553E)
	(Approx. 68 cm picture measured diagonally)		Approx. 52kg (KV-C2953E)
	110 ° -degree deflection		
Inputs	→ 1 21-pin connector: CENELEC standard including RGB input.		-Continued on next page-
	→ 2 21-pin connector: including S video input		
	Front : Audio and video input jacks: phono jack.		
	Including S Video input		
	Y: 1Vp-p±3dB 75ohm		
	C: 0.3Vp-p±3dB 75ohm		

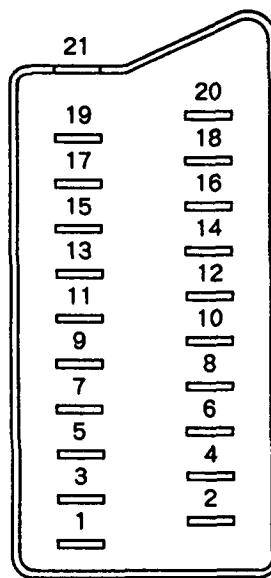
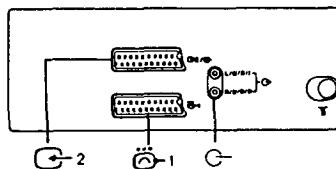


TRINITRON® COLOR TV
SONY®

[RM-816]

Remote control system	infrared control	Accessories supplied	IEC designation R6 batteries (2)
Power requirements	3V dc	Supplied accessories	RM-816 Remote Commander (1) IEC designation R6 batteries (2)
	2 batteries IEC designation R6 (size AA)		
Dimensions	Approx. 75×221×23mm(w/h/d)	Design and specifications are subject to change without notice.	
Weight	Approx. 230g (including batters)		

21 pin connector (Pin 1, Pin 2)



Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5Vrms Output impedance : Less than 1kohm*
2	○	○	Audio input B (right)	Standard level : 0.5Vrms Input impedance : More than 10kohms*
3	○	○	Audio output A (left)	Standard level : 0.5Vrms Output impedance : Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5Vrms Input impedance : More than 10kohms*
7	○	●	Blue input	0.7V±3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5-12 V) : Part mode Low state (0-2 V) : TV mode Input impedance : More than 10kohms Input capacitance : Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal : 0.7V±3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	-	Red input	0.7V±3dB, 75ohms, positive
	-	○	(S signal) chroma input	0.3V±3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1-3 V) Low state (0-0.4 V) Input impedance : 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V±3dB, 75ohms, positive Sync : 0.3V (-3, +10dB)
20	○	-	Video input	1V±3dB, 75ohms, positive Sync : 0.3V (-3, +10dB)
	-	○	Video Input/Y (S signal)	1V±3dB, 75ohms, positive Sync : 0.3V (-3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open)

* at 20 Hz-20 kHz

4 pin connector (Pin 1)

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V±3dB 75ohm, positive Sync 0.3V $_{-3}^{+10}$ dB
4	C (S signal) input	0.3V± 3dB 75ohm positive

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SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

How to Receive NICAM TV Programmes

This TV is capable of receiving NICAM, which is a newly developed digital stereo broadcast for TV programmes.

NICAM programmes are broadcast in three ways : stereo, bilingual or monaural sound besides the regular (FM mono) sound. You can select the sound you want to hear by pressing the A/B button.

Action	Result
Press A/B on the Remote Commander.	The NICAM sound mode changes respectively. The selected sound mode differs depending on the broadcast.

The selected sound mode

NICAM sound being broadcast	The sound you hear
Stereo	Stereo → Regular → Stereo (etc.)
Bilingual	A → B → Regular → A (etc.)
Monaural	A → Regular → A (etc.)

On-screen indications and the NICAM indicator

The selected mode (STEREO, MONAURAL, SOUND-A or SOUND-B) appears on screen, and the NICAM indicator on the TV lights up as indicated in the following chart :

The sound being broadcasted	The selected sound	NICAM indicator	Indications on the screen
NICAM+Regular	Stereo	×	STEREO
	A	×	SOUND-A
	B	×	SOUND-B
	Regular	×	MONAURAL
Regular	Regular	○	○

× means that the indicator lights up or the indication appears.

○ means that the indicator does not light up or the indication is not displayed.

The sound heard when you turn on the TV

Depending on the NICAM sound programme, the sound heard when you turn on the TV is different.

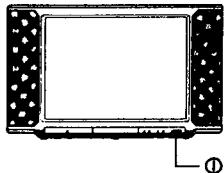
NICAM sound programme	The sound heard
NICAM sound and the regular sound are the same	NICAM sound
NICAM sound and the regular sound are different	Regular sound

Note) The layout, etc., will be slightly different from the operating instructions packed with the units.

SECTION 1 GENERAL

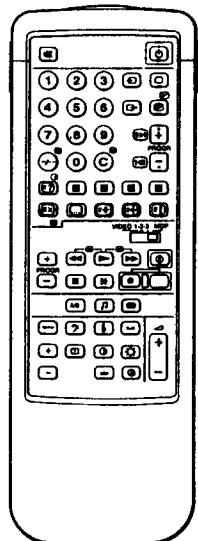
Turning the TV unit ON and OFF

After you have completed the basic preparation your TV is ready to be connected to the mains power supply (220/240V, 50Hz).



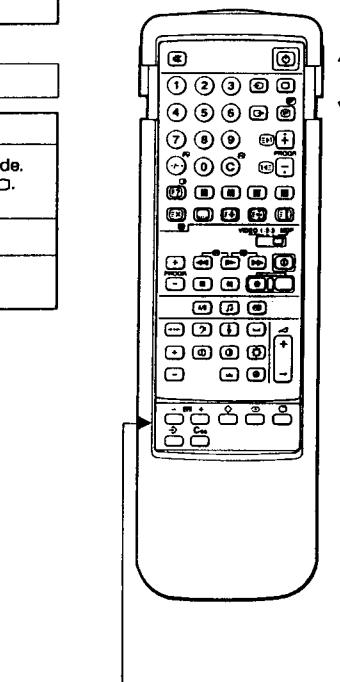
Turning the TV unit ON

Action	Result
1 Press \diamond on the TV.	The TV will turn on. Note: If the screen remains blank, the TV may be in the standby mode. Press \square to switch it on.



Turning the TV unit OFF

A Temporarily	
Press \diamond to enter the standby mode.	The TV will be in the standby mode. To return to the TV mode press \square .
B Completely	
Press \diamond on the TV set.	The TV will be turned off.



Note: These buttons should be used in preset mode only.

TV channel presetting

After installing the TV set, TV channels must be preset.

TV broadcasting stations broadcast their programmes on certain fixed frequencies (channels). In order to receive these programmes it is necessary to search for the relevant broadcasting station and to set record it as a channel. The "programme number" is the number that the user decides to associate with a certain channel.

For channel settings there are 60 positions available in the memory. In this way all stations broadcasting within the user's country can be received and recorded as a channel.

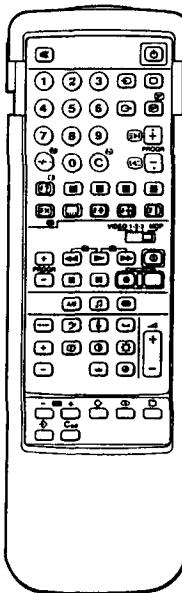
TV channels automatic presetting

If you are unfamiliar with the transmission frequency of the channels you wish to preset, refer to the section "TV channels automatic presetting". However, if you want to tune them using the frequency of each channel, go to the section "Direct TV channel setting".

To select a button on the "complete" side, take out the remote control unit from its case to reveal the preset buttons, as shown in the illustration.

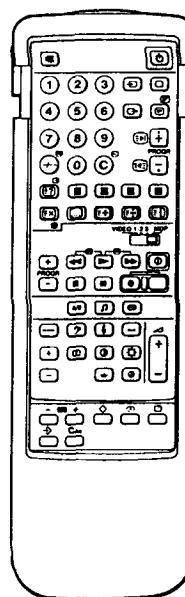
Operation	Result
1 Press \rightarrow to begin the preselection.	The programme number flashes.
2 Press PROGR + / - or the remote control unit number buttons to select the channel number to which you want to preset the station.	The programme number on the screen changes.
NOTE: To select a 2-figure number press the $/-$ button. E.g., if you wish to select number 23, press $/-$ first, and then 2 and 3.	
3 To search for broadcasting stations press $\text{PROG} +$ and $-$ buttons.	When a broadcasting station is tuned correctly, the search will stop. If you want to skip it, press $\text{PROG} +$ or $-$ again.
4 Press \diamond to memorize the channel to that which the broadcasting station is tuned.	All data disappears from the screen.
5 To memorize other broadcasting stations repeat steps from 1 to 4.	

TV channel presetting



Direct TV channel setting

Operation	Result
1 Press → to begin the presetting.	
2 Press PROGR + / - or the number buttons on the remote control unit to select the channel number to which you want to preset the station.	
Note: To select a 2-figure number press -- button. E.g., if you wish to select number 23, press -- first, and then 2 and 3.	
3 Press C. If you wish to select a cable station, press C twice.	
4 By using the number buttons of the remote control unit select the channel number, always with two figures (for "4" press "04"). 	
Note: Press the second number within 5 seconds of the first. After 5 seconds the operation is cancelled.	
5 Press ◇ to memorize the channel to which the station is tuned.	
To memorize other broadcasting stations repeat the above procedure.	



Broadcasting station identification

By associating a name with a certain broadcasting station it is possible to avoid having to remember, each time, in which channel number that particular station has been memorized.

Five different characters are available for station identification.

Operation	Result
1 By using PROGR + or - or the number keys of the remote control unit, select the programme number to be set for identification.	
2 Press →	
3 Press □	
4 Press the + or - buttons to select a letter of the alphabet, a number, or a blank space.	
5 Press □	
6 Repeat steps 4 and 5, and fill all five available spaces.	
7 Press ◇	
All indications disappear from the screen, except the programme number. All indications remaining on the screen have been memorized.	

Temporary channel tuning

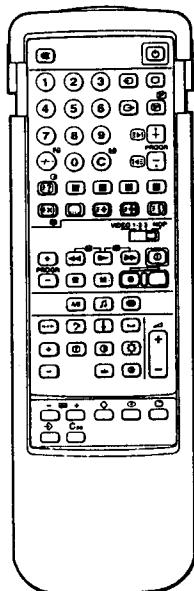
It is possible to temporarily memorize a channel, even if it has not been preset.

Operation	Result
1 Press C. Press C twice for a cable station.	"C" ("S" for cable stations) indication appears on the screen.
2 Using the number keys of the remote control unit select the channel number, always with two figures (e.g., "04" for channel "4").	The channel will be received, but it will not be set as a programme number.

Basic functions

Skipping channels

Using the PROGR +/− buttons you can skip unused programme numbers. However, the skipped numbers may still be called up using the number buttons.



Operation	Result
1 Press → to begin presetting. 	The programme number begins to flash on the screen.
2 By using the PROGR + and − buttons, or the number keys of the remote control unit, select the programme number you wish to skip. 	The programme number changes.
3 Press Coo . 	Under the programme number, the lowest channel number appears.
4 Press ◇ . 	All indications under the programme number disappear from the screen. The skipped programme number will be memorized.

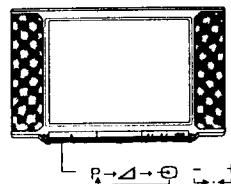
Manual fine tuning

If the picture is not perfect, it is possible to fine tune it manually.

Operation	Result
Press + or − repeatedly until the picture is at the optimum.	The indication ←F→ appears on the screen.
Press → to start preselection.	The programme number starts flashing on the screen.
Press ◇ .	Manual fine tuning has been memorized.

Note: Manual fine tuning will be reset when the channel is selected again.

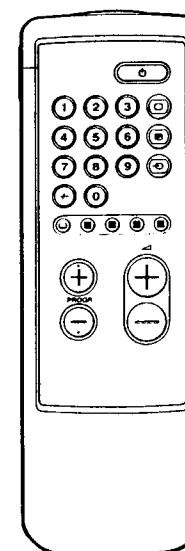
To open, press the arrow ↓.



This section introduces you to the basic control functions which are available on the "simple" side of the remote control unit.

Programme selection

Before selecting programmes make sure that TV channels have been memorized.



Operation	Result
Press PROGR +/− buttons or the number keys of the remote control unit. To select a 2-figure number press →−. E.g., if you wish to select number 23, press →− first, and then 2 and 3. 	The selected programme number appears on the screen.

Volume control

Operation	Result
Press ▲ or ▾ . 	The volume indication appears on the screen.

Use of additional functions

Use of other functions with the TV set buttons

It is also possible to select programmes and to adjust the volume by using P→↓→□ and →←+ or − buttons, located on the front panel of the TV set.

In this case, press first P→↓→□ until the indication P (channel) or ▾ (volume) appears on the screen, and then press →←+ or − buttons.

Use of teletext service

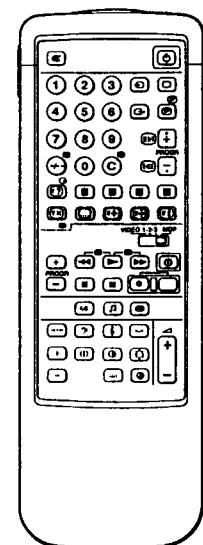
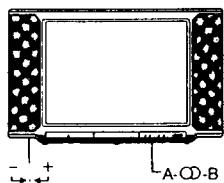
Press □ . To return to the TV mode, press □ . For further information on the teletext service see page 12.

Selection of the video input

Press □ . To return to the TV mode, press □ . For further details, refer to page 16.

Special functions

This section explains the use of functions for adjusting pictures and sound.
Use the "complete" side of the remote control unit.



Use of special functions

The following functions can be used.

Function	Operation	Reset
Indication display	Press G	Press G again.
Sound muting	Press KK	Press KK again.
Language selection for bilingual programmes.	Press A/B. The selected language is displayed by the relevant indication on the screen.	Press A/B.
Sound adjustment for music programmes.	Press JJ	Press JJ again.
Use of special sound effects.	Press EE	Press EE again.
Time display (only during teletext broadcasting).	Press OO	Press OO again.

Picture and sound adjustment

Although the picture and sound have been adjusted at the factory, you might want to adjust them to your own taste. To do this, please follow the steps below.

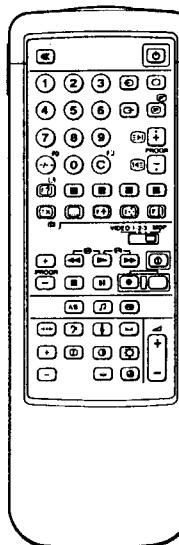
To Adjust:	Press:	Then:	Result: (+ ↔ -)
Picture:			
Colour intensity	•		More ↔ Less
Contrast	○	[+]	More ↔ Less
Brightness	○	[+]	Bright ↔ Dark
Hue (for NTSC only)	■■■	[+]	Reddish ↔ Greenish
Sharpness	□		More ↔ Less
Sound:			
Bass	?	[+]	More ↔ Less
Treble	↓	[+]	More ↔ Less
Balance	✉	[+]	Left ↔ Right

To reset the picture and sound to factory set levels, press **→↔←**.

On the set: Press the **→↔←** and **+/-** buttons simultaneously.

Use of the teletext service

Through the teletext service a great deal of information can be received at any time. Broadcasting stations make this service available through TV broadcasts. To use the teletext service, use the green keys on the "complete" side of the remote control unit. When the "simple" side of the remote control unit is used, only the basic functions are available.



How to display teletext service

Operation	Result
1 Select the channel you want to watch.	The channel changes on the screen.
2 Press □	If there is no teletext signal, the indication "Page 100" appears on the screen.
3 Use the number keys of the remote control unit to insert the three figures corresponding to the desired teletext page. Note In case of a mistake, press any three numbers, and then repeat the operation with the correct numbers.	The selected page number appears on the screen. After a few seconds, the selected page appears on the screen.

To return to normal TV programmes:
Press **C**.

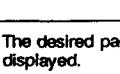
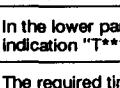
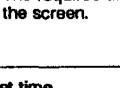
To change teletext channel:
First press **C** to return to the TV mode, and then repeat steps 1 to 3.

Note: A weak TV signal may cause trouble in the use of teletext.

Use of special teletext functions

Required function	Operation	Result (on the screen)
Page index required.	Press □ (INDEX) .	Page Index appears.
Sub-pages required (page 888).	Press C .	The sub-page appears (page 888).
Access to previous or following pages.	Press ⊖ (PAGE +) or ⊕ (PAGE -) .	P201 The preceding or the following page appears.

Use of the teletext service

Required function	Operation	Result (on the screen)
Superimposition of the teletext on the TV programme.	In the TV mode, press 2 twice. To return to the normal teletext function press 2 again.	 Teletext information will appear superimposed on the TV programme.
To prevent page changes due to page updating.	Press 8 (STILL). Press 2 (TXT/MIX) to return to the normal function.	 The 8 (STILL) symbol appears on the screen.
Magnification of teletext characters.	Press 6 once to magnify the upper half of the screen. Press twice to magnify the lower half of the screen. By pressing the button three times the normal vision is restored.	 The upper or the lower half of the page is magnified.
Display of hidden information (answers to quizzes, etc.).	Press 10 (PIV). Press again to hide the answers.	 The information is displayed.
Watching a programme while the teletext searches for the required page.	1. Ask again for the page. 2. Press 2 3. When the required page has been found, the page number will be displayed. 4. Press 2 to display the page.	The number is displayed.  The TV programme is displayed.  The desired page will be displayed.
Display of a page at a preset time.	1. Request the page. 2. Press 2 (MEM.T). 3. Set the required time by using the number keys, and by inputting four figures (e.g. 0730 for "7:30").	The selected page will be displayed.  In the lower part of the screen the indication "T****" appears.  The required time is displayed on the screen.
	To watch TV programmes until a preset time Press 2 (CANC.). At the required time, the selected page appears in the upper part of the screen. Press 2 to display the page. To cancel the request Display the teletext page and then press 2 (CANC.M.).	

Use of the FASTEXT function

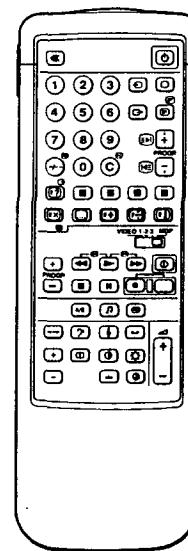
The FASTEXT function allows rapid access, at the touch of a single button, to the teletext functions. In the lower part of the screen, a colour coded index will be displayed when a FASTEXT teletext page is broadcasted. Each colour corresponds to the colored keys on the remote control unit.

Operation

Operation	Result
Press one of the coloured keys on the remote control unit corresponding to the coloured indications of the FASTEXT teletext page.	The selected teletext page appears on the screen.

Note:

The correct use of the FASTEXT function depends on the signal being broadcast by the TV stations. Some TV stations may not broadcast FASTEXT teletext signal.



Connections and optional functions

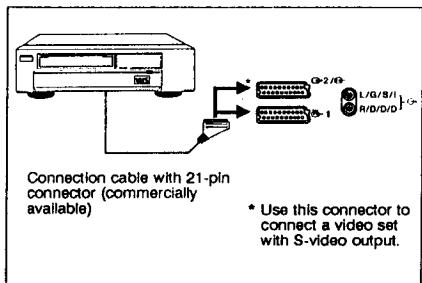
This TV set may be connected to other audio/video machines, such as videocameras, VTRs, videodisc players, or stereo systems.

Connection to an external audio/video system

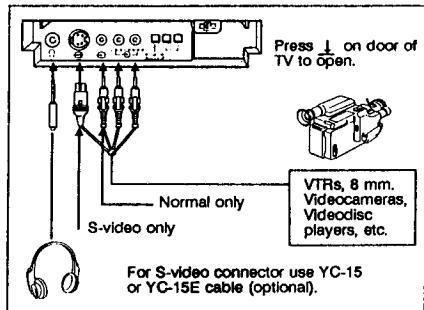
This TV set incorporates three groups of connectors, for input and output to the TV signal. Each group has the following characteristics.

Connector	Input signal	Output signal
G-1	Normal audio/video signal or RGB signal	TV tuner audio/video signal
G-2/E-	Normal audio/video signal and S-video signal	Audio/video signal from a selectable source
-G, -D, -D front panel	Normal audio/video signal and S-video signal	No signal

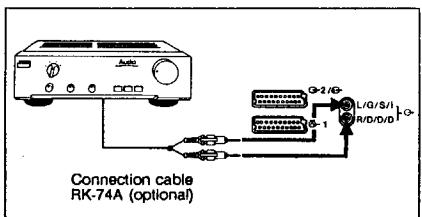
Connection of a TV set



Temporary connection of video apparatus
For a temporary connection (e.g. of a videocamera) use the front panel terminals.



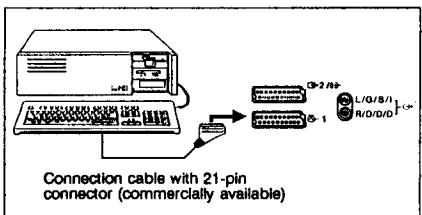
Connection of an audio unit



Connection of a videotape recorder through the T connector
Connect the antenna input (AERIAL-IN) of the TV set to the antenna output (AERIAL-OUT) of the videotape recorder.

S-video input (Y/C input)
The video signal is formed by two separate signals: the luminance (Y) and the chrominance (C). Through the separation of the two signals it is possible to improve picture quality (luminance in particular), preventing reciprocal interference. This TV set features two S-video sockets able to directly receive this type of signal.

Connection to a computer with RGB output



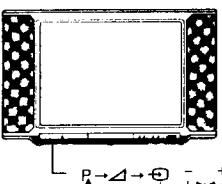
Pictures with distortion
Move the TV set away from the videotape recorder if pictures or sound become distorted.

Connections and optional functions

Video programme playback

Using the input selector, pictures coming from a videotape recorder connected to the TV sets input may be played back.

Operation



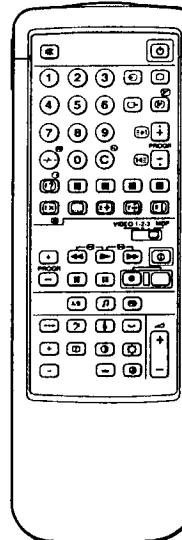
Select the desired video input by pressing E repeatedly.



The symbol of the selected input appears on the screen (see table below).

Press D button to return to TV mode.

Selectable inputs



Symbol	Selected input
E1	Audio/video signal from G-1 connector.
D	RGB signal from G-1 connector.
E2	Audio/video signal from G-2/E- connector.
-G2	S-video signal (from a VTR with S-video output) from G-2/E- connector.
E3	Audio/video signal from G-, -D connector located on the front panel.
-G3	S-video signal from S-video -G- (4 pin) connector located on the front panel.

Input can be selected also with the P → D → E buttons of the TV set.

In this case, first select E, and then press the + / - buttons to select the desired input.

Selection of video output

The G-2/E- connector may output 4 video signals. Select the outgoing video signal in the following way.

Operation

Operation	Result
Press E repeatedly to select the desired video output.	1 G*

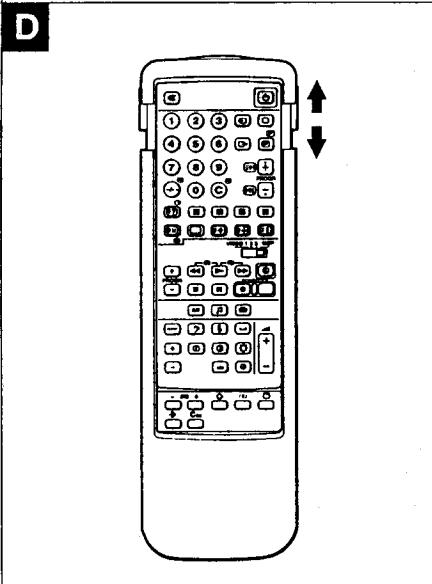
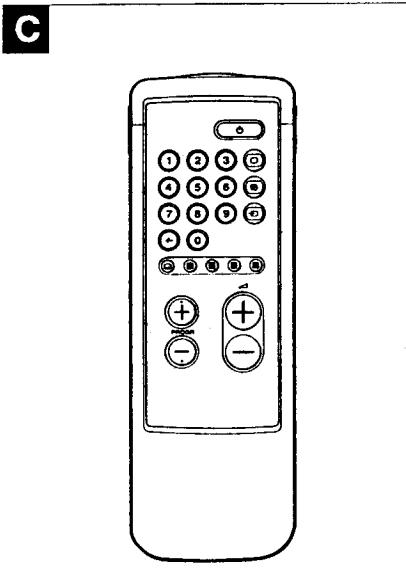
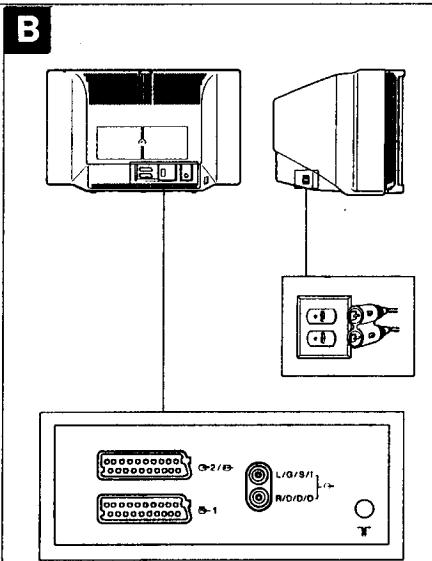
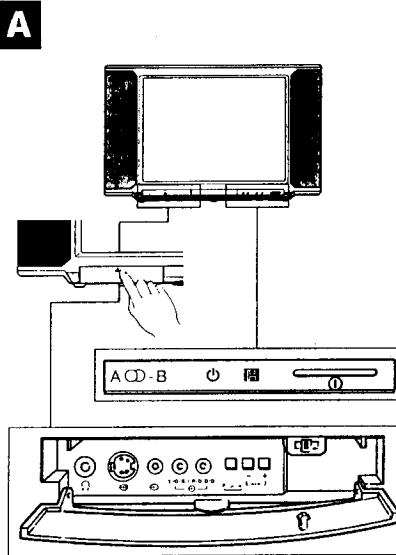
The selected video output symbol appears on the screen (see the table following).

Output signal

Symbol	Selected output
1 G*	Audio/video signal from G-1 connector.
2 G*	Audio/video signal from G-2/E- connector.
3 G*	Audio/video signal from G-, -D connectors.
TV G*	Audio/video signal from T-type antenna connector T.

General information

Components identification



General information

This section briefly describes controls of the TV set and the remote control unit, and their relevant functions.

A TV set front panel	
Indication	Description
Φ	Power switch
∅	Standby switch
A - ∞ - B	Bilingual function indications
Ω	Headphones connector (stereo mini-jack)
- ⊗ ⊕ -	Input connectors (S-video/video/audio)
P - □ - ⊖	Function selector (programme/volume/input)
- +	Function adjustment keys

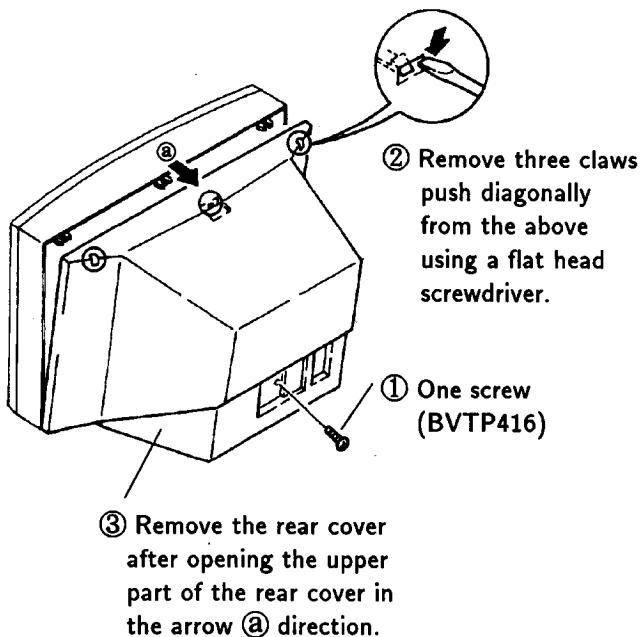
B TV set rear panel	
Indication	Description
◀ ▶	Speaker connectors (upper: left speaker; lower: right speaker)
⊖+ ⊖-	Connector 2, Euro AV (SCART, 21-pin). S-video In/video In/TV/video out signals.
⊖ 1	Connector 1, Euro AV (SCART, 21-pin). RGB In/video In/TV/out signals.
⊖	Audio output connectors (RCA pin)
TT	Antenna connector (of IEC standard)

C Remote control unit — simplified side	
Indication	Description
⊖	Input selector
⊖	Teletext service key
⊖ ⊖ ⊖ ⊖	FASTEXT operation buttons
⊖	TV set power switch and TV mode selector
∅	Standby key
1,2,3,4,5, 6,7,8,9,0	Number keys
- --	Channel selection key/2-figure programmes
△ +/-	Volume adjustment key
PROGR +/-	Programme selection key

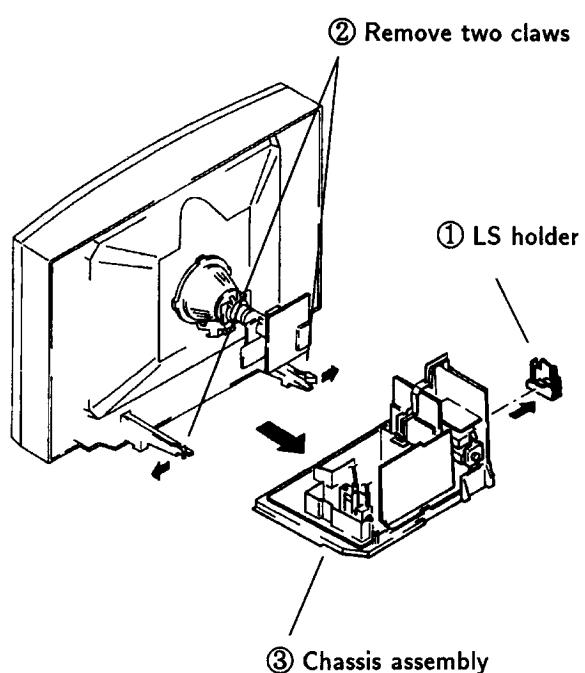
D Remote control unit — complete side	
Indication	Description
⊗	Sound muting key
⊕	Standby key
1,2,3,4,5, 6,7,8,9,0	Number keys
⊖	Input selector
⊖	TV set power switch and TV mode selector
⊖	Output selector
⊖	Teletext key
♪	Music programme key
A/B	Bilingual programmes language selection
- --	Channel selection key/2-figure programmes
C	Channel direct selection key
⊖	Special sound effect key
⊖	Time display
⊖ ⊖ ⊖ ⊖ ⊖	Teletext operation keys
⊖ ⊖ ⊖ ⊖	FASTEXT operation buttons
⊖	Display key
→←	Reset key
△ +/-	Volume adjustment keys
PROGR +/-	Programme selection keys
⊖ ⊖ ⊖ ⊖ ⊖	Image and audio adjustment keys
VIDEO 1/2/3, MDP	Video unit selector
◀◀◀▶▶	Video units function key
⊖ ⊖ ⊖ ⊖ ⊖	Programme cancelling key
⊖	Channel presetting key
- ⊖ +	Channel tuning keys
◊	Channel storing keys
⊖	Broadcasting stations identification key

SECTION 2 DISASSEMBLY

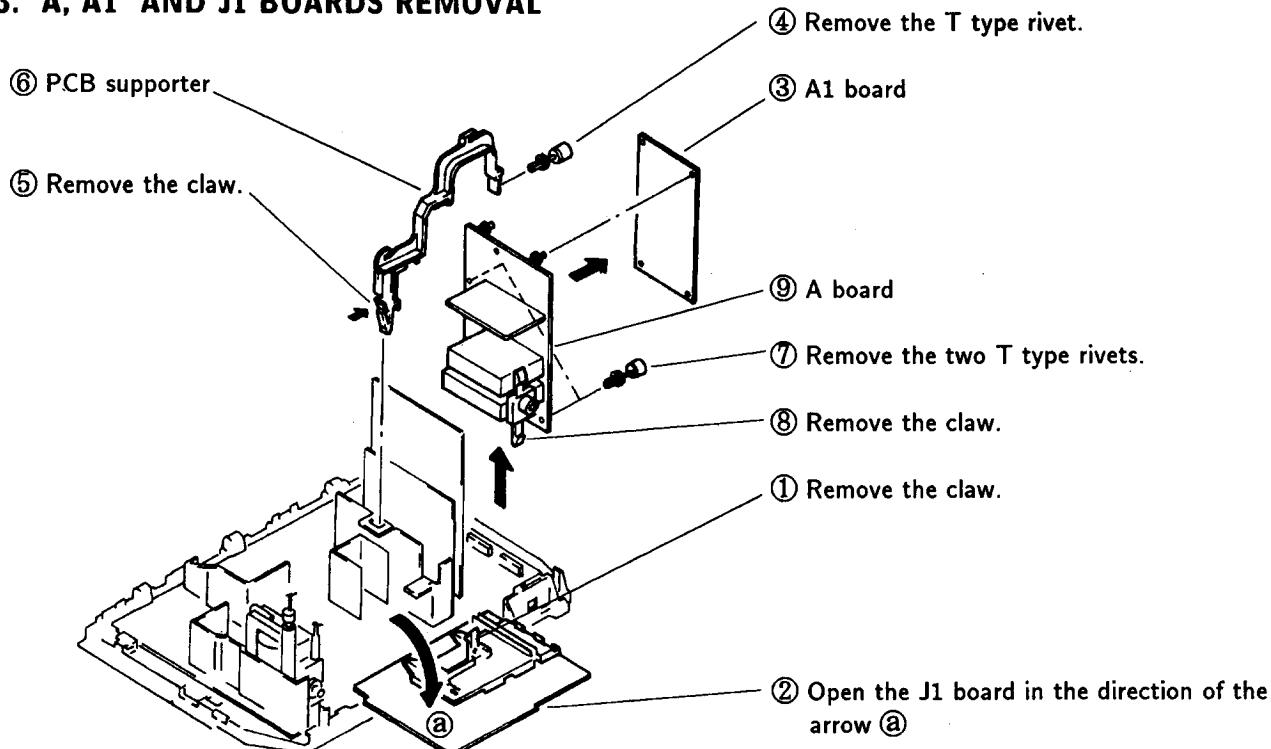
2-1. REAR COVER REMOVAL



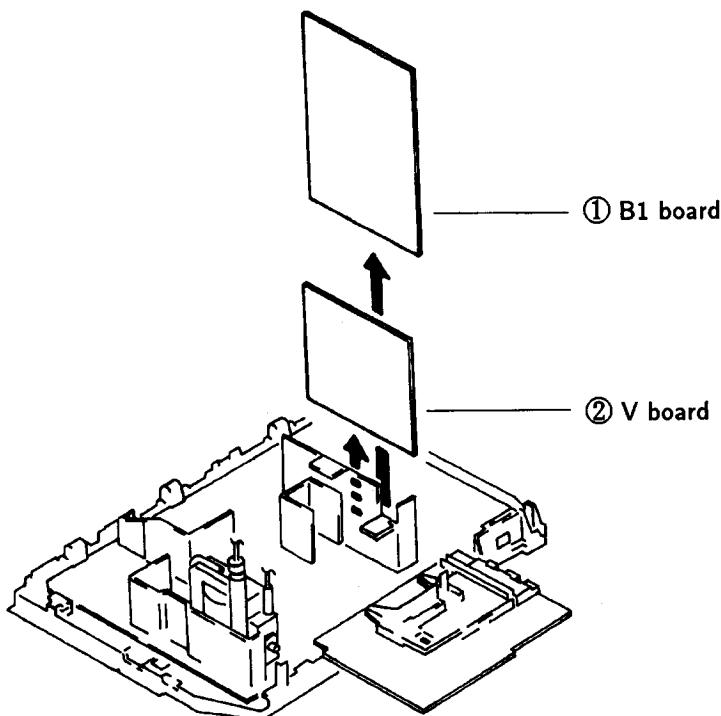
2-2. CHASSIS ASSEMBLY REMOVAL



2-3. A, A1 AND J1 BOARDS REMOVAL



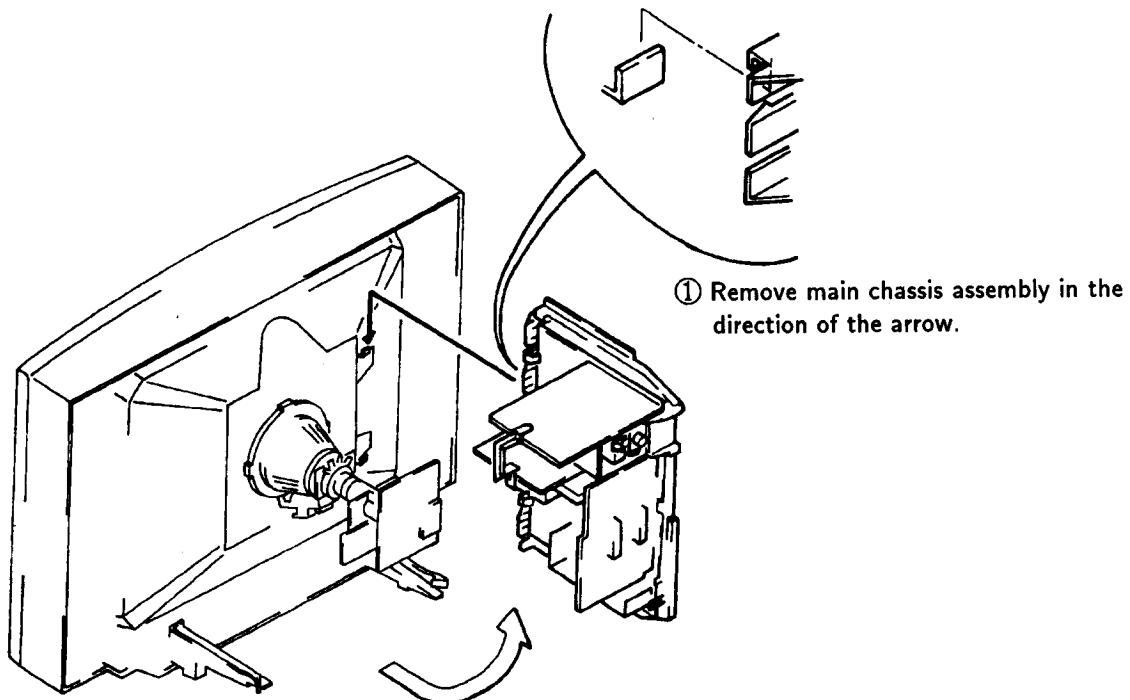
2-4. B1 AND V BOARDS REMOVAL



Note : 10 pin extension cable (S-0945-001-0)

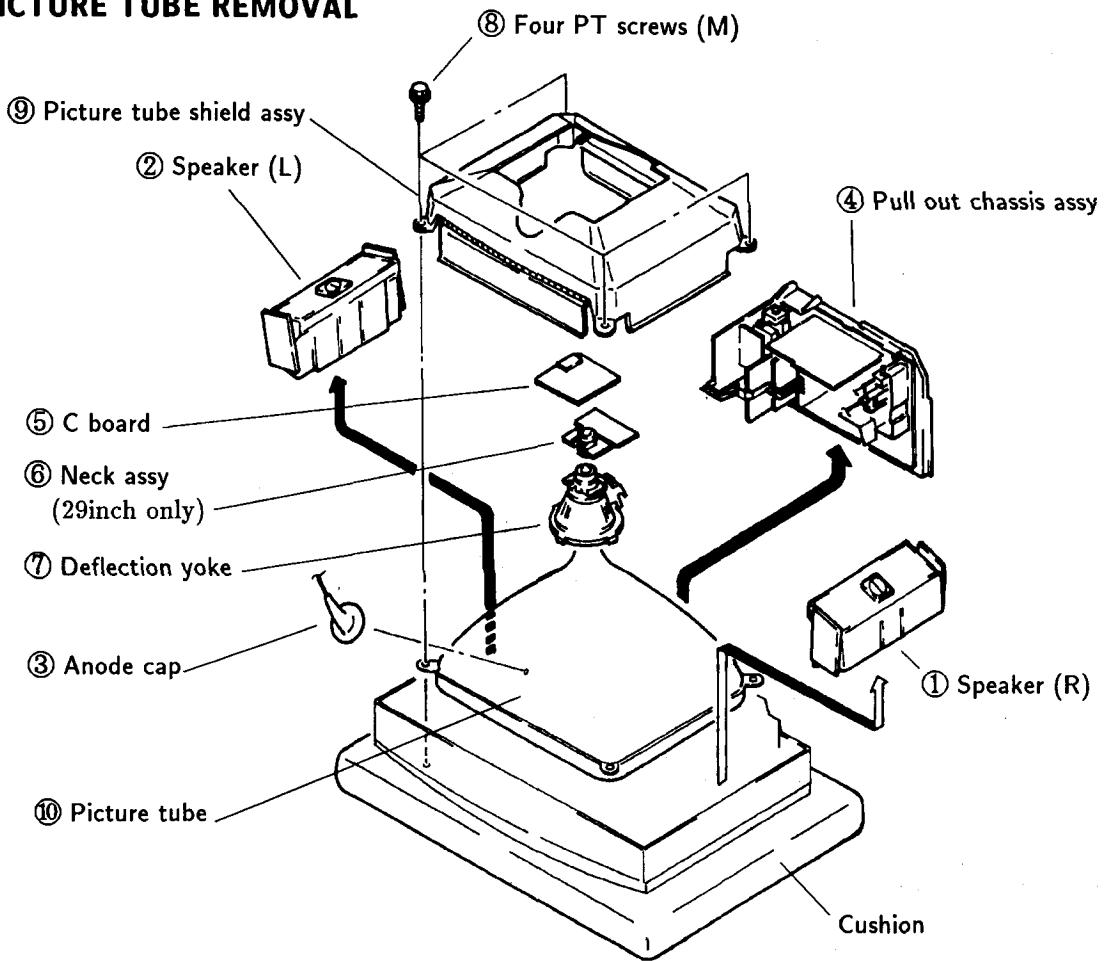
2-5. SERVICE POSITION

- * Remove the connector bracket from the main chassis assembly and then perform the following servicing.
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)



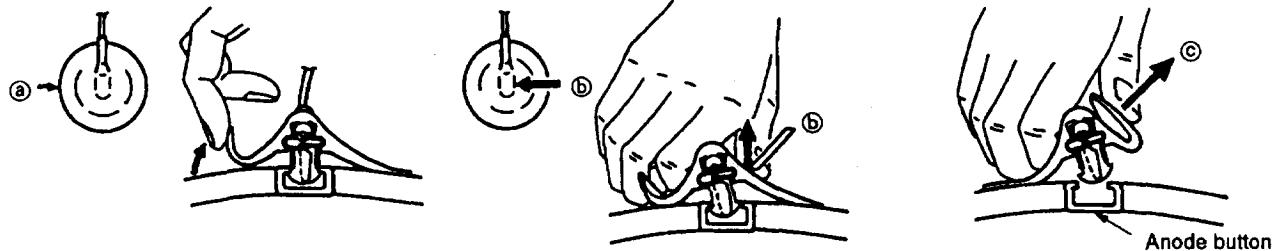
① Remove main chassis assembly in the direction of the arrow.

2-6. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

• REMOVING PROCEDURES



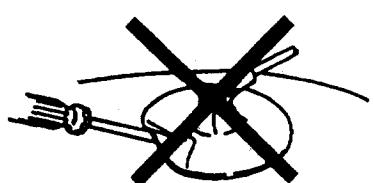
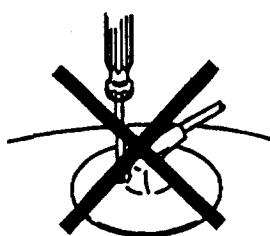
① Turn up one side of the rubber cap in the direction indicated by the arrow ②.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ③.

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ④.

• HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.



SECTION 3

SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :
 - Contrast 80%
 - (or remote control normal)
 - Brightness 50%

- Carry out the following adjustments in this order:
 1. Beam landing
 2. Convergence
 3. Focus
 4. White balance

Note: Testing equipment required

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
 Contrast |
 Brightness } normal
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
 (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
 (See Figure 3-4.)

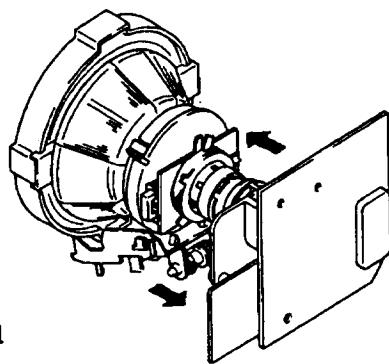


Fig. 3-1

Fig. 3-2

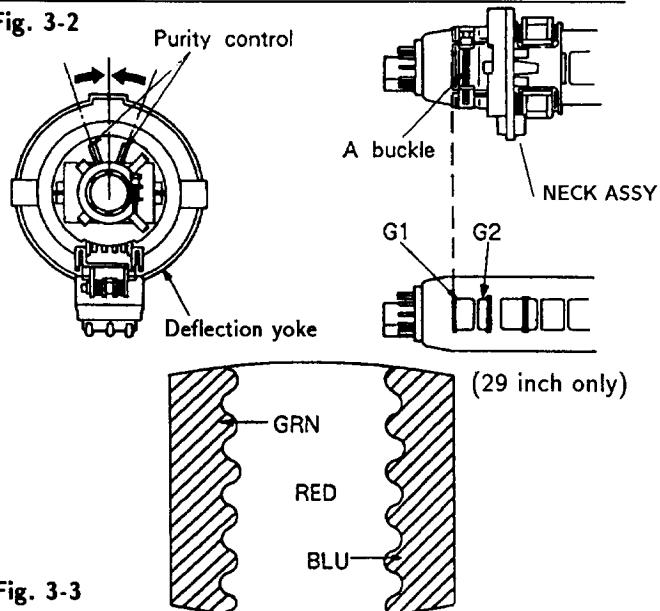


Fig. 3-3

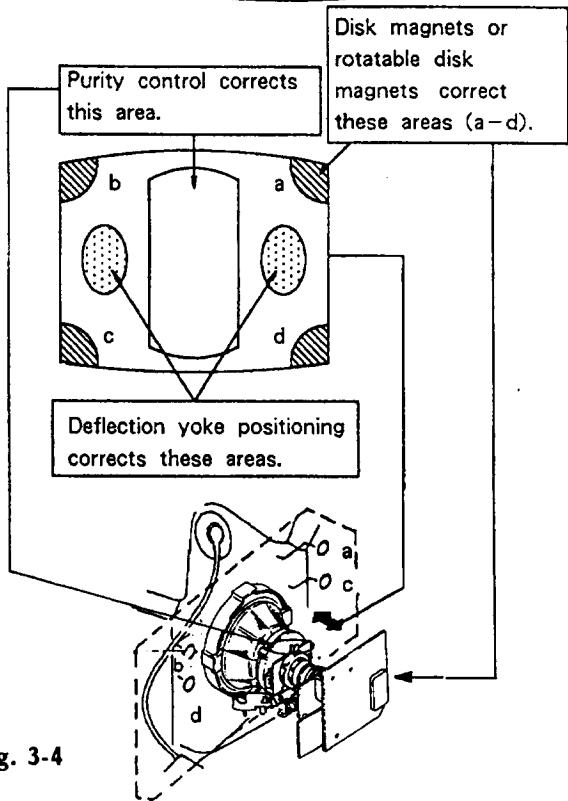


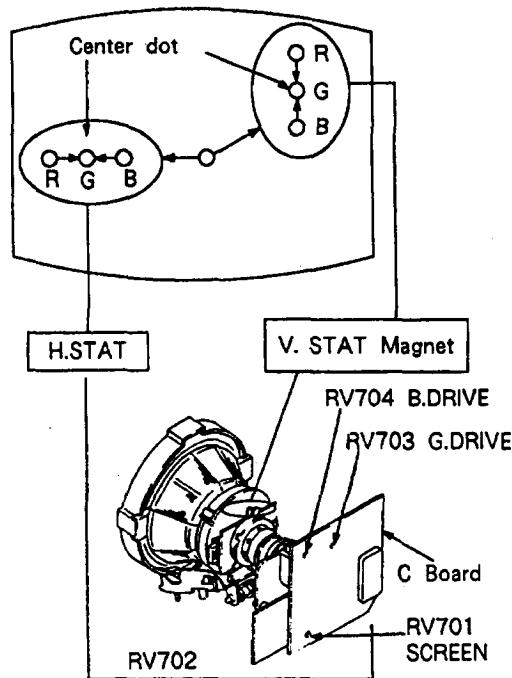
Fig. 3-4

3-2. CONVERGENCE

Preparations :

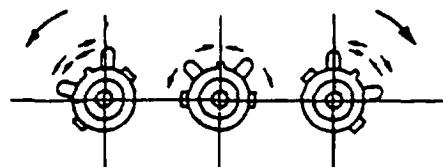
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

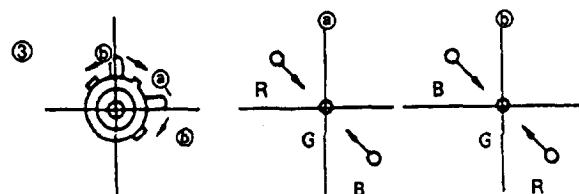
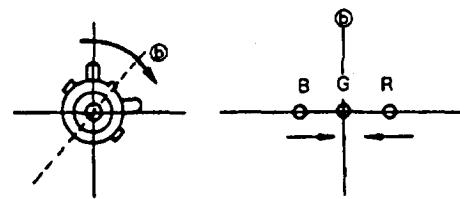
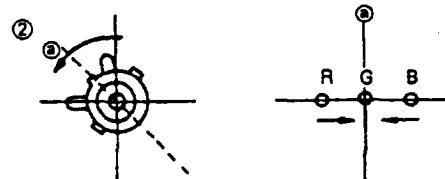
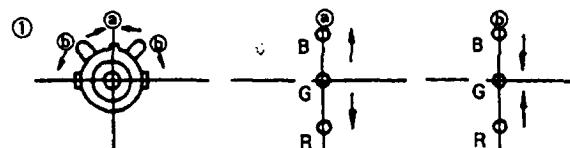


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
(In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

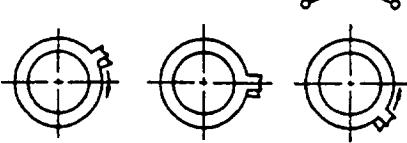
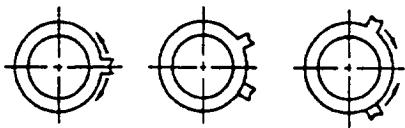
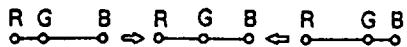
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the ③ and ④ arrows, the red, green, and blue points move as shown below.

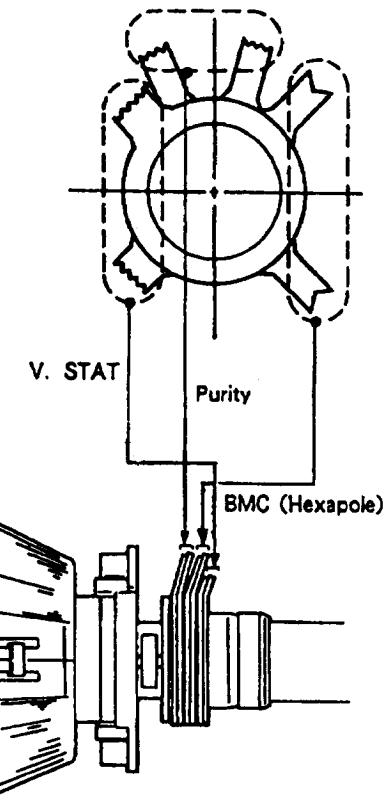


- Operation of BMC (Hexapole) Magnet



- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.

Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).



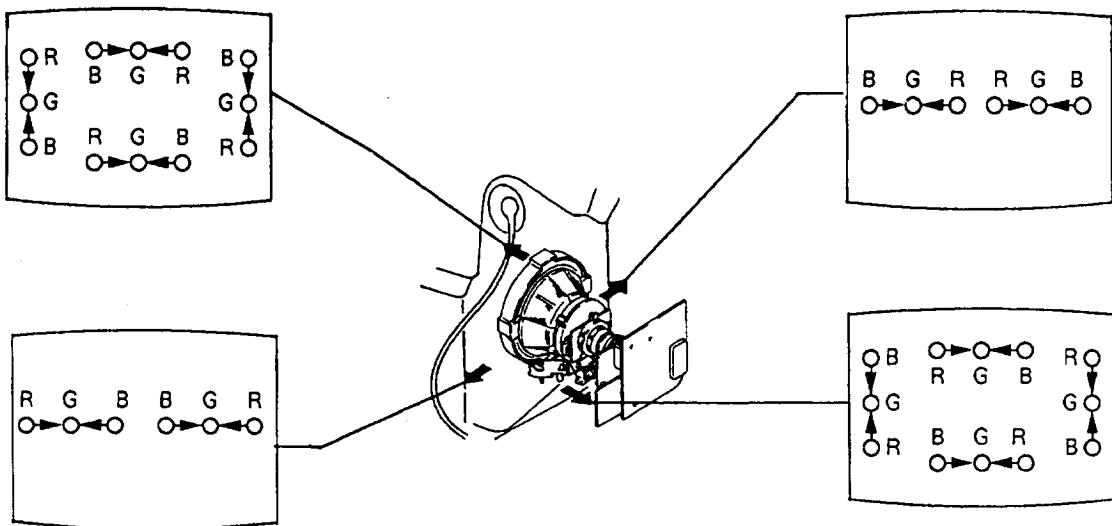
(2) Dynamic convergence adjustment

Preparations :

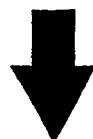
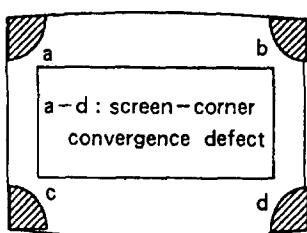
Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.

3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.

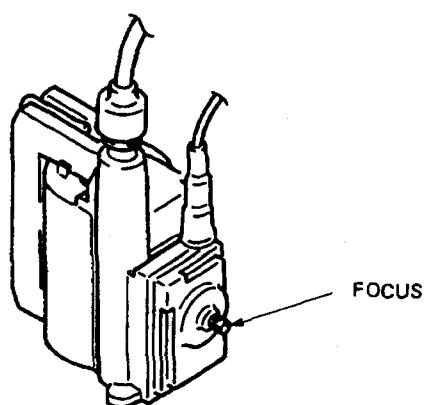


(3) Screen corner convergence

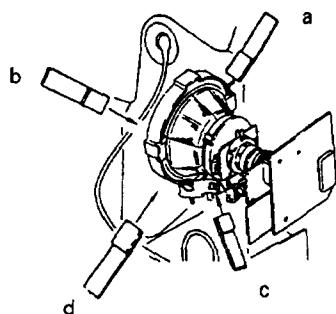


3-3. FOCUS

Adjust the focus to optimize the screen.



Install the permalloy assembly for the section with faulty.



Permalloy

3-4. WHITE BALANCE

[Screen G2 setting]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

[White balance adjustment]

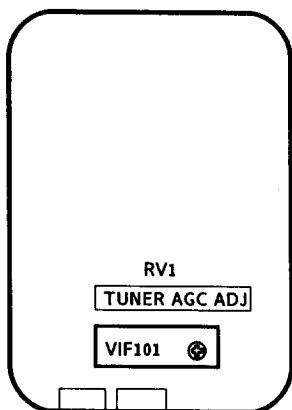
1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4

CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS

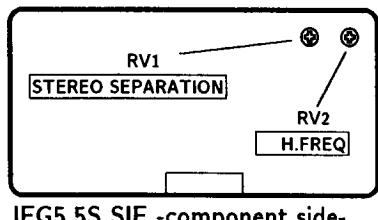


A BOARD (COMPONENT SIDE)

TUNER AGC ADJUSTMENT (VIF101, RV1)

1. Align with an appropriate signal between stations.
2. Adjust RV1 so that snow noise and cross modulation just disappear from the picture.

IFG5.5S SIF



IFG5.5S SIF -component side-

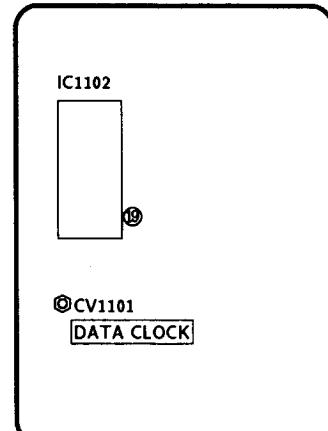
STEREO SEPALATION ADJUSTMENT (RV1)

1. Input stereo signals. (L-CH 400Hz, R-CH 1KHz)
2. Check the stereo indicator.
3. Connect on oscilloscope to pin⑧ (CH1) of CN1 through band pass filter of 1KHz
4. Adjust RV1 so that 1KHz voltage goes down to the minimum.

H FREQ (RV2)

1. Input a PAL COLOR BAR signal, then connect a jumper between pin⑫ IC4 and GND.
2. Connect a frequency counter to pin④ IFG5.5S (HP) of CN1 through a probe of 10 : 1.
3. Adjust RV2 (H.FREQ) $15.625 \pm 50\text{Hz}$.
4. After adjustment, remove the jamper.

4-2. A1 BOARD ADJUSTMENT

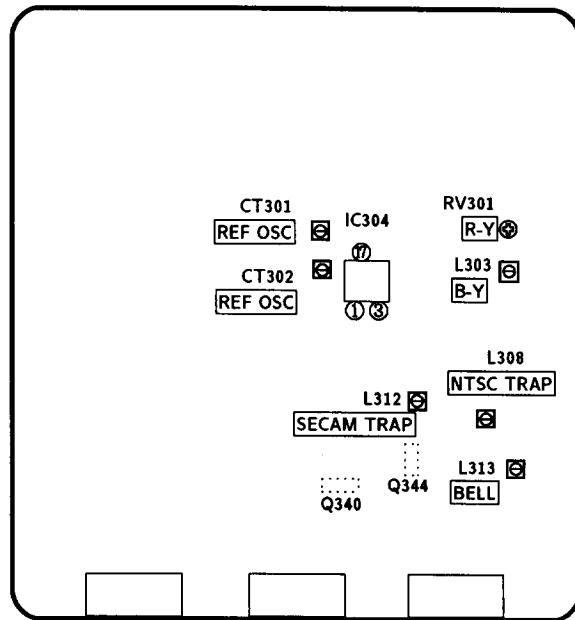


A1 BOARD (COMPONENT SIDE)

DATA CLOCK Adjustment (CV1101)

1. Tune in a no signal.
2. Connect a frequency counter to pin ⑨ of IC1102 (PCLK) through a probe of 10:1.
3. Adjust CV1101 (DATA CLOCK) so that frequency becomes $728.022\text{KHz} \pm 1\text{Hz}$.

4-3. B1 BOARD ADJUSTMENTS



B1 BOARD (COMPONENT SIDE)

REFERENCE OSCILLATOR ADJUSTMENT (CT302 8.8MHz)

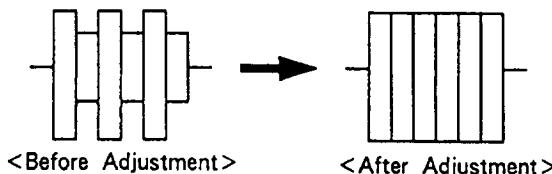
1. Input a PAL color bar signal.
2. Ground pin ⑯ of the IC304.
3. Adjust CT302 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT301 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑯ of IC304.
3. Adjust the CT301 to obtain synchronization.
4. Remove the jumper grounding pin ⑯ of IC304.

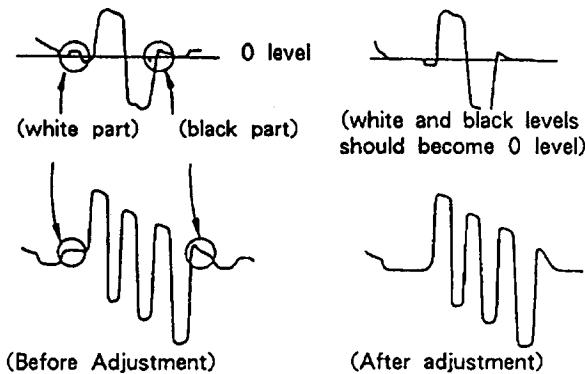
BELL FILTER ADJUSTMENT (L313)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.



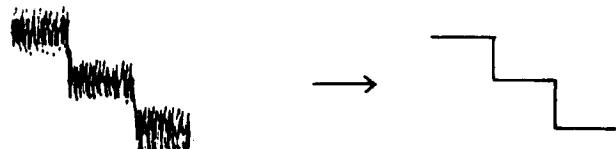
DISCRIMINATION ADJUSTMENTS (RV301 and L303)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC304.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level.
4. Connect the oscilloscope to pin ③ of IC304.
5. Adjust L303 until the white and black sections of the waveform at pin ③ are at the 0 level.



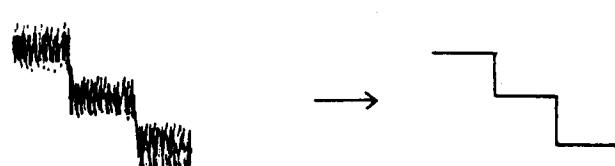
SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

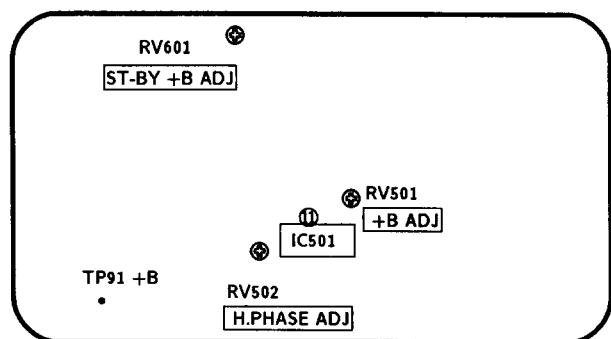


NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



4-4. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

+B ADJUSTMENT (RV501)

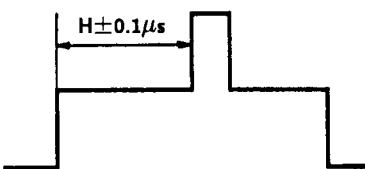
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain $135 \pm 0.2V$.

ST-BY +B ADJUSTMENT (RV601)

1. Put the system into $\textcircled{1}$ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain $135 \pm 3V$.
4. Take the system out of $\textcircled{1}$ standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

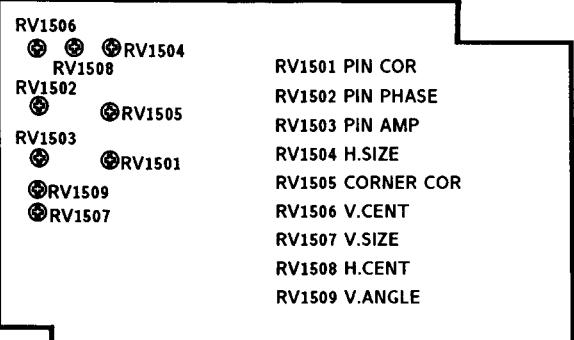
1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to $H \pm 0.1\mu s$.



Standard of H. PHASE

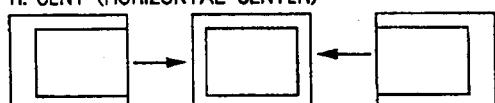
Model Size	H
25 "	$5.1\mu s$
29 "	$5.5\mu s$

4-5. J1 BOARD ADJUSTMENTS

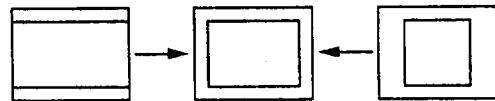


J1 BOARD (COMPONENT SIDE)

RV1508 H. CENT (HORIZONTAL CENTER)



RV1504 H. SIZE (HORIZONTAL SIZE)



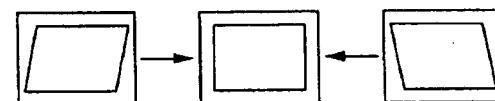
RV1506 V. CENT (VERTICAL CENTER)



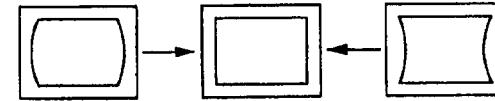
RV1507 V. SIZE (VERTICAL SIZE)



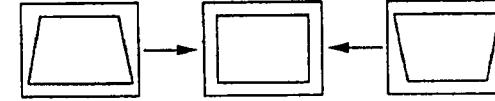
RV1509 V. ANGLE (VERTICAL ANGLE)



RV1503 PIN AMP (PINCUSHION AMPLIFIER)



RV1502 PIN PHASE (PINCUSHION PHASE)



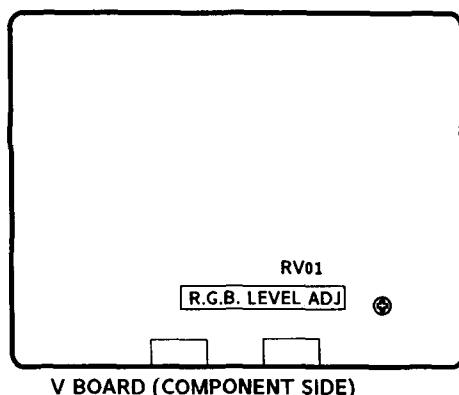
RV1501 PIN. COR (PINCUSHION CORRECT)



RV1505 CORNER. COR (CORNER CORRECT)



4-6. V BOARD ADJUSTMENT



V BOARD (COMPONENT SIDE)

RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.

4-7. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and - simultaneously, turn on the power. (SUB mode is obtained)
5. Minimize the contrast setting.
6. Adjust the brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the (store) button of the remote commander.
(SUB mode is released)

If there is no test color pattern

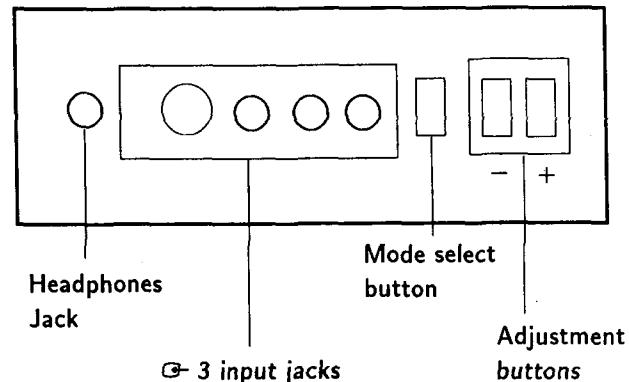
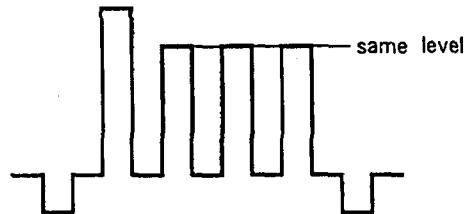
1. Set the system to receive a color pattern.
 2. Press → • ← on the remote commander to put the system into normal mode.
- Set the color to its normal state.

3-5. Steps are the same as above.

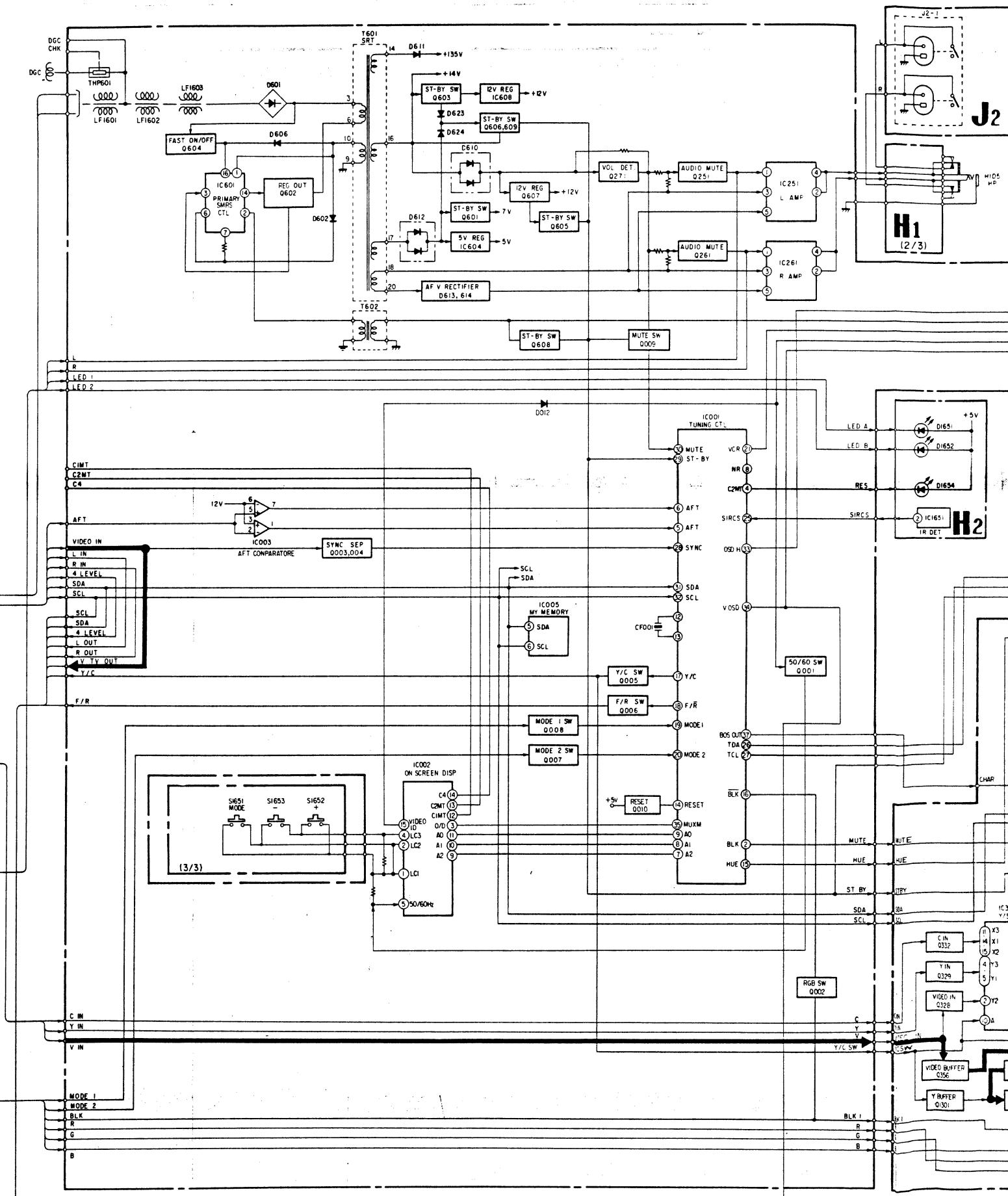
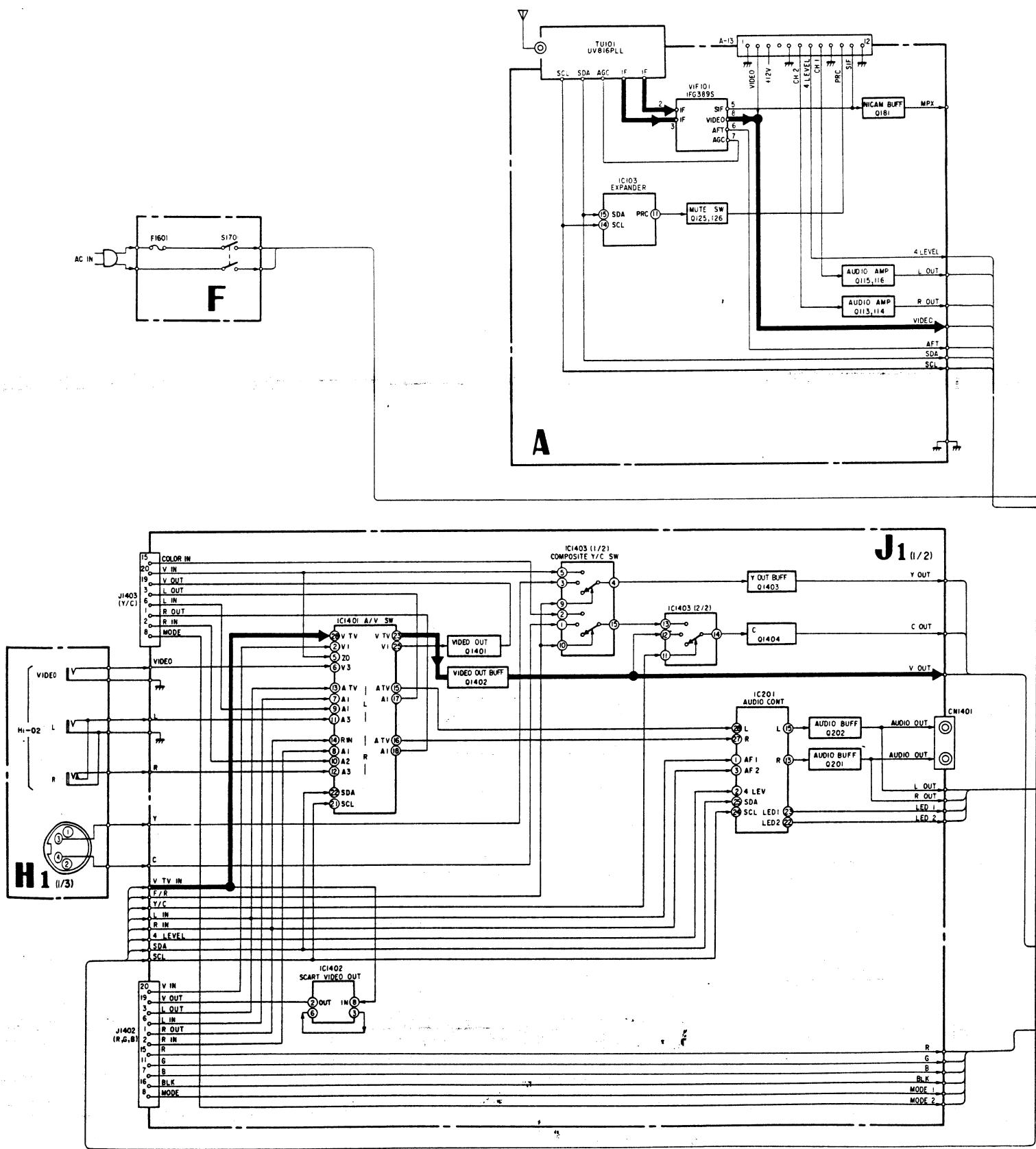
6. Since 20 IRE is nearly blue, adjust the brightness control so that the blue barely glows.
7. Same as step 7 above.
8. Press → • ← on the remote commander to put the system into normal mode.

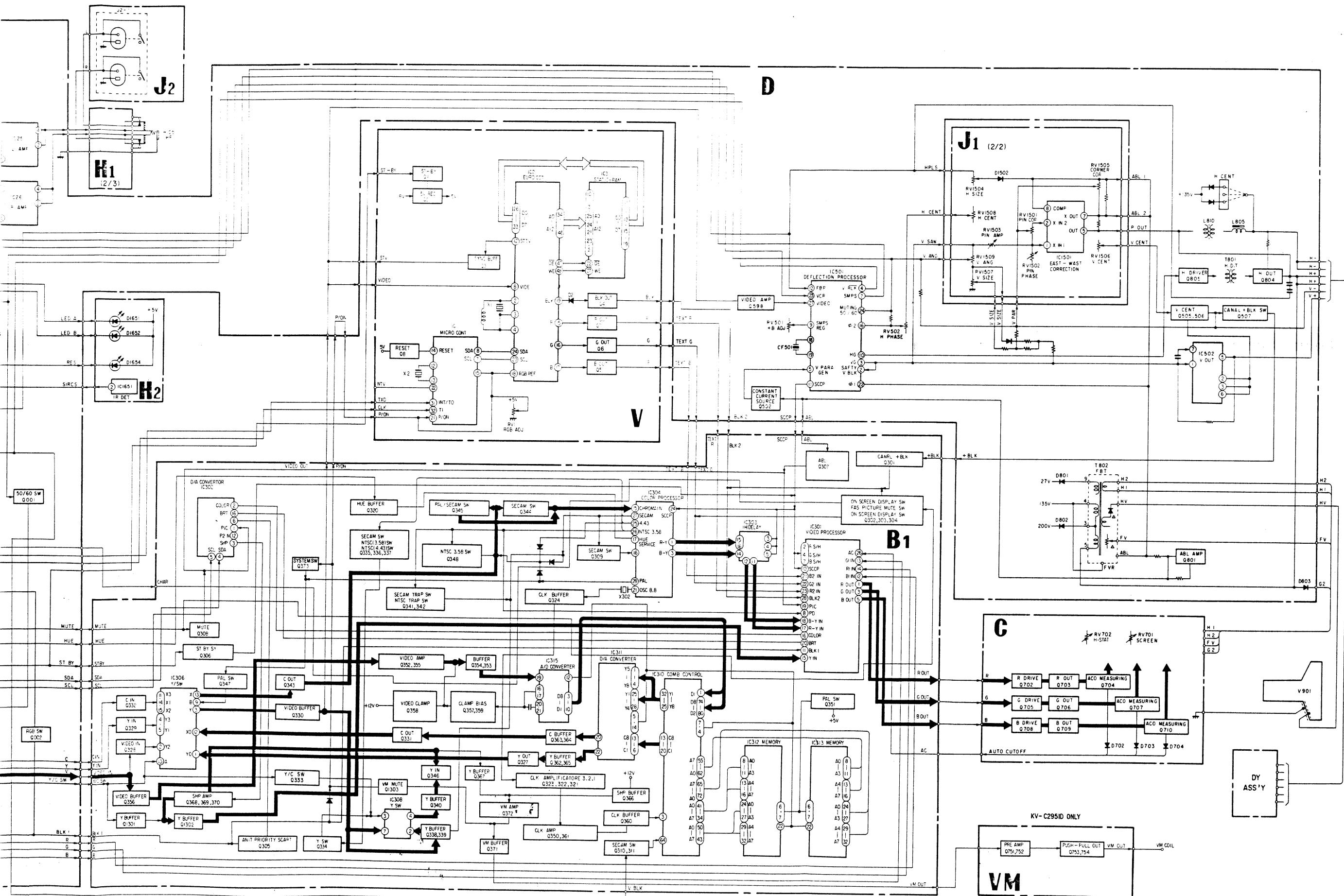
SUB COLOR ADJUSTMENT

1. Set the system to receive color bars.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and - simultaneously, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the (store) button of the remote commander. (SUB mode is released)

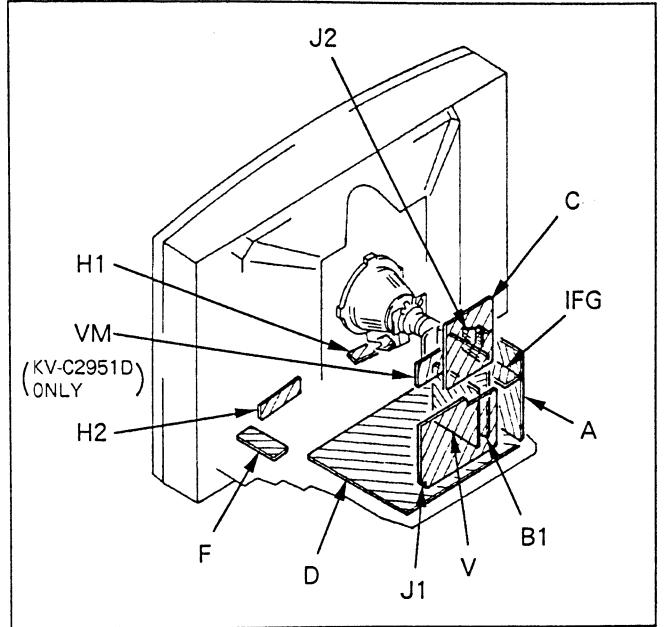


DIAGRAMS





5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAM AND PRINTED WIRING BOARDS

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

Note:

- All capacitors are in μF unless otherwise noted.
 $\mu\mu\text{F}$: $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

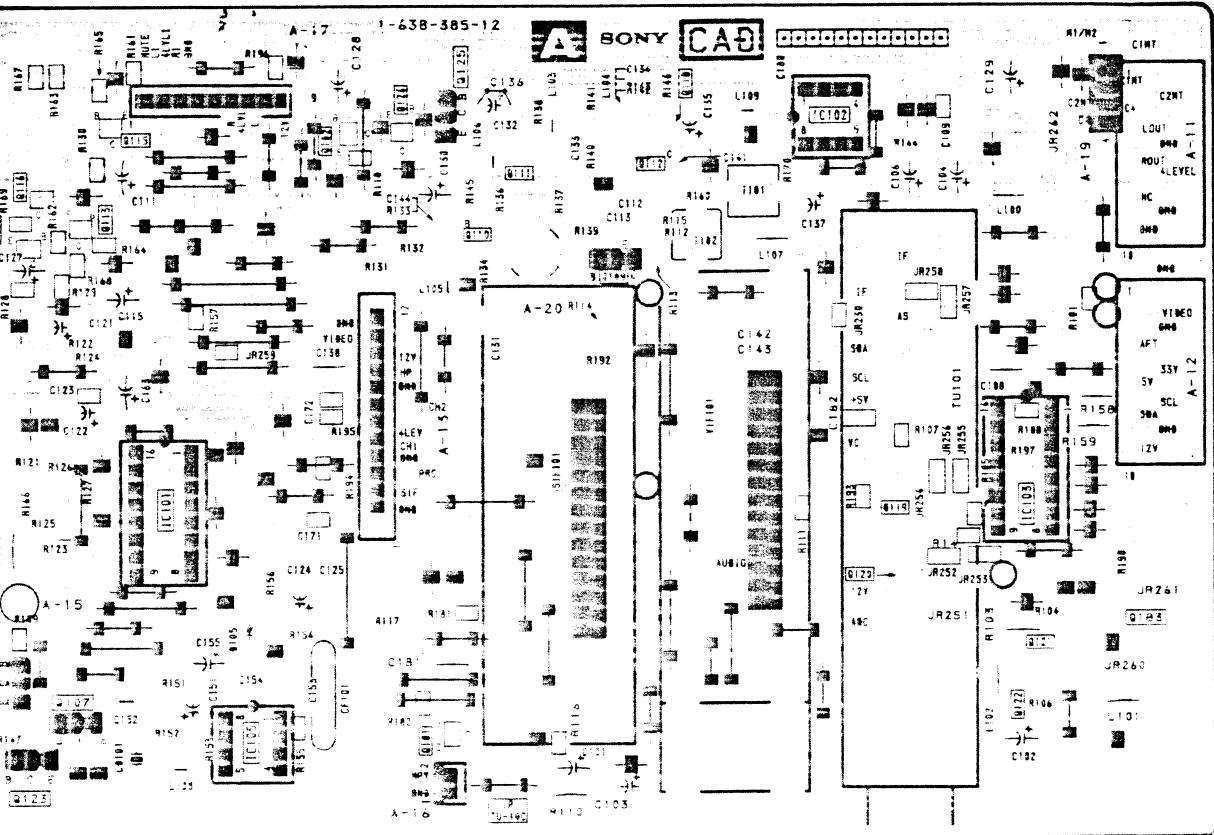
Pitch : 5mm
Rating electrical power: 1/4W

- Chip resistor is in 1/10W.
- All resistors are in ohms. $\text{k}\Omega = 1000\Omega$, $\text{M}\Omega = 1000\text{k}\Omega$
- : nonflammable resistor.
- : fusible resistor.
- Δ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B.unless otherwise noted.
- All voltages are in V.
- Readings are taken with a $10\text{M}\Omega$ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- : B + line.
- : signal path. (RF)

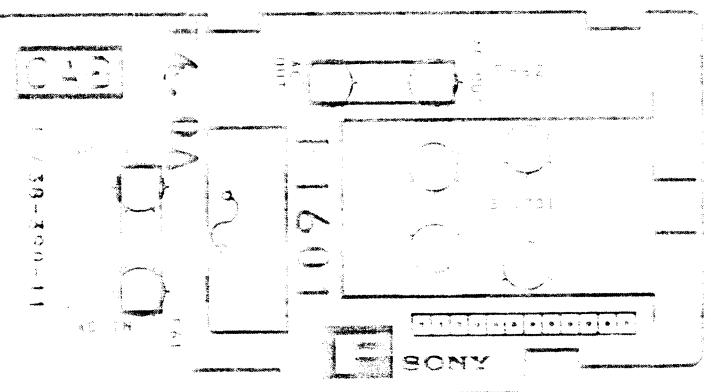
Reference information

RESISTOR	RN	METAL FILM
	RC	SOLID
	FPRD	NONFLAMMABLE CARBON
	FUSE	NONFLAMMABLE FUSIBLE
	RS	NONFLAMMABLE METAL OXIDE
	RB	NONFLAMMABLE CEMENT
	RW	NONFLAMMABLE WIREWOUND
	*	ADJUSTMENT RESISTOR
COIL	LF-8L	MICRO INDUCTOR
CAPACITOR	TA	TANTALUM
	PS	STYROL
	PP	POLYPROPYLENE
	PT	MYLAR
	MPS	METALIZED POLYESTER
	MPP	METALIZED POLYPROPYLENE
	ALB	BIPOLAR
	ALT	HIGH TEMPERATURE
	ALR	HIGH RIPPLE

-A Board-



-F Board-

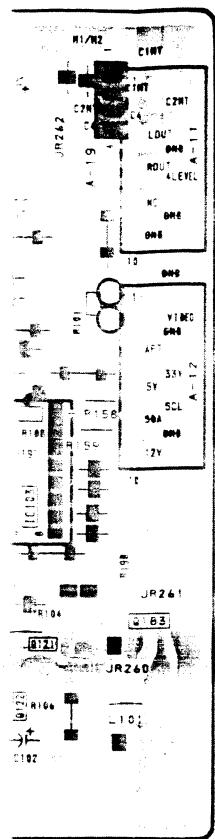


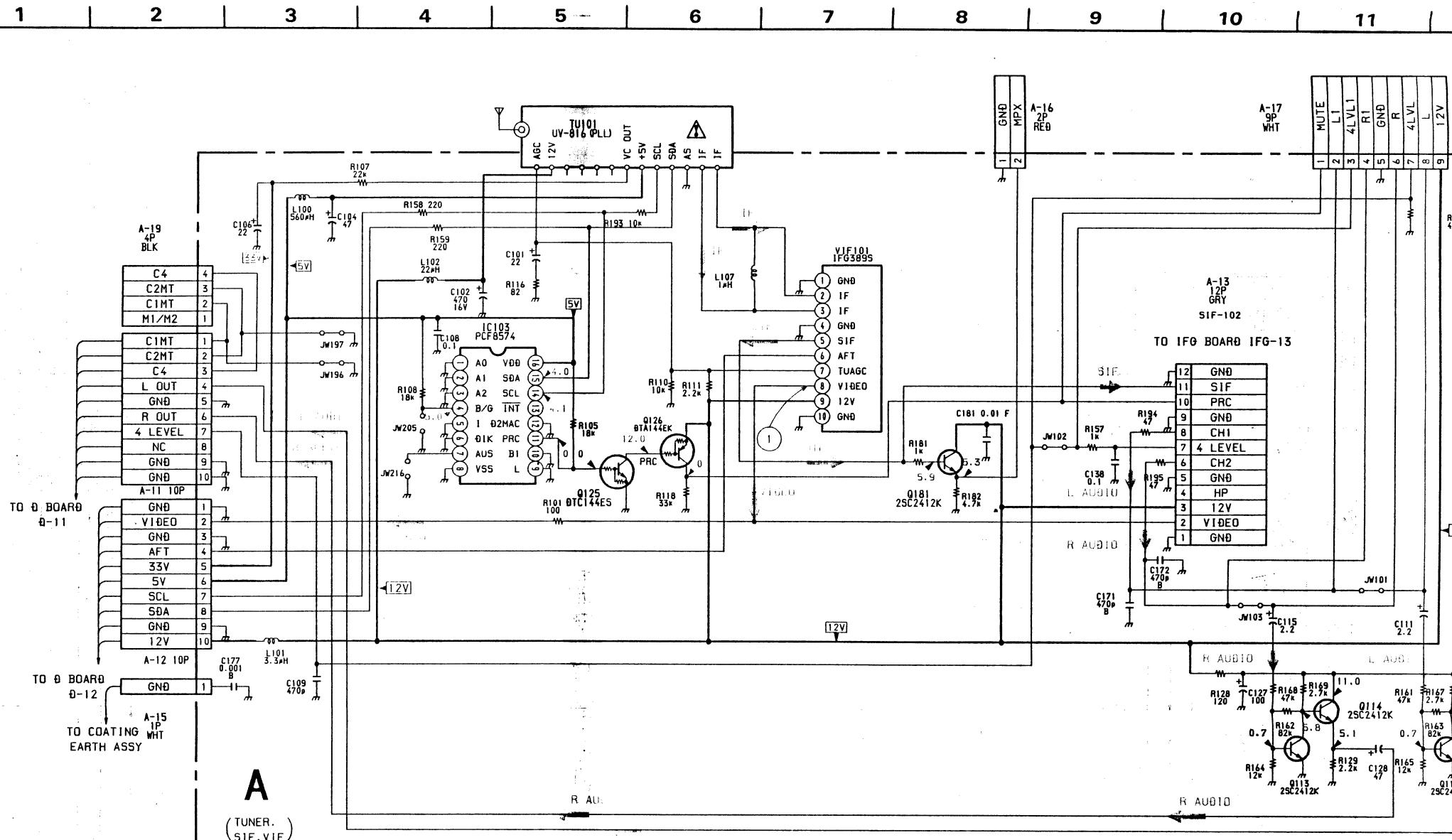
T,
OUT,**J2**[SPEAKER
TERMINAL]**VM**

[VM AMP]

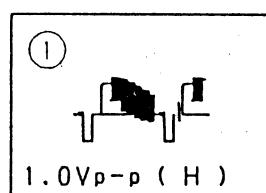
H1[CONTROL SW, AV INPUT,
HEADPHONE]**H2**[SIRCS RECEIVER,
INDICATOR]

—J1 Board—



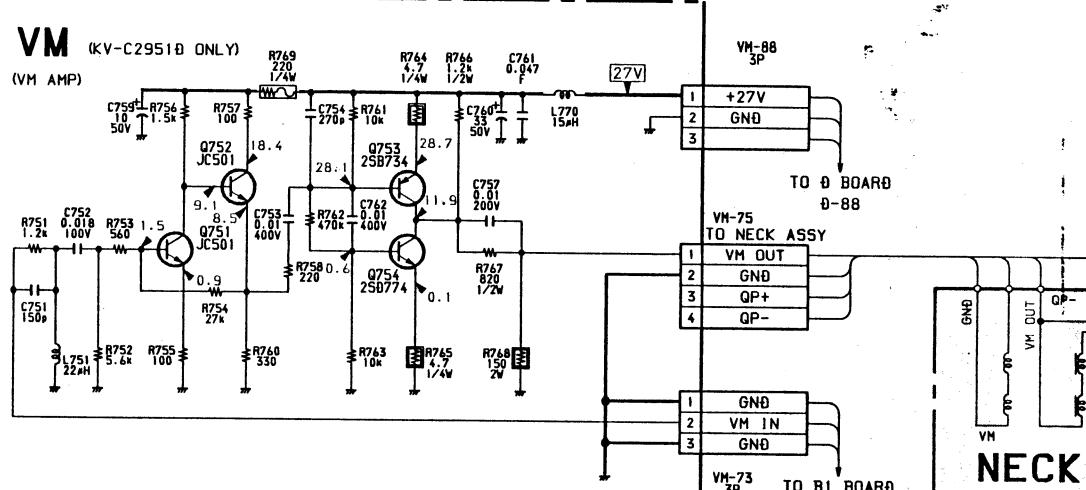
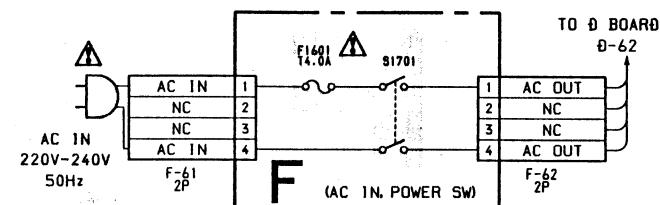
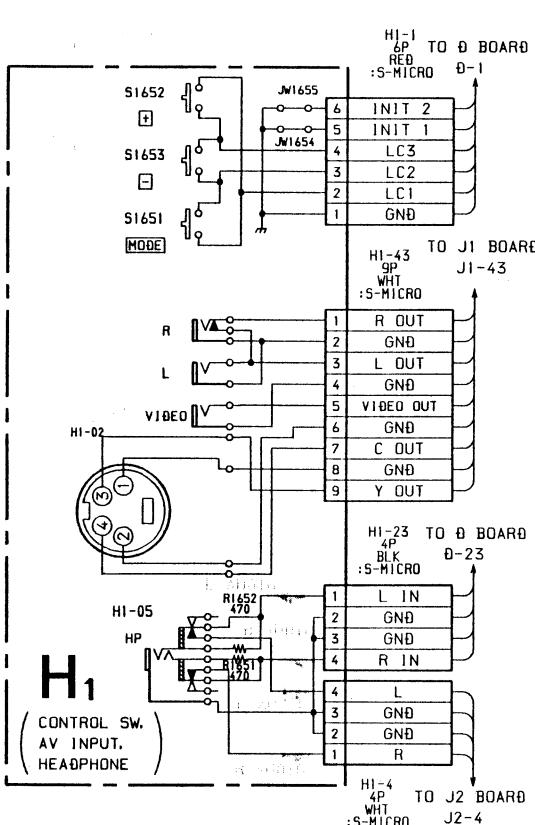


• WAVEFORMS A BOARD



• A BOARD

IC103	PCF8574	EXPAND
Q113	2SC2412K	AUDIO
Q114	2SC2412K	AUDIO
Q115	2SC2412K	AUDIO
Q116	2SC2412K	AUDIO
Q125	DT144ES	MUTE S
Q126	DTA144EK	MUTE S
Q181	2SC2412K	NICAM

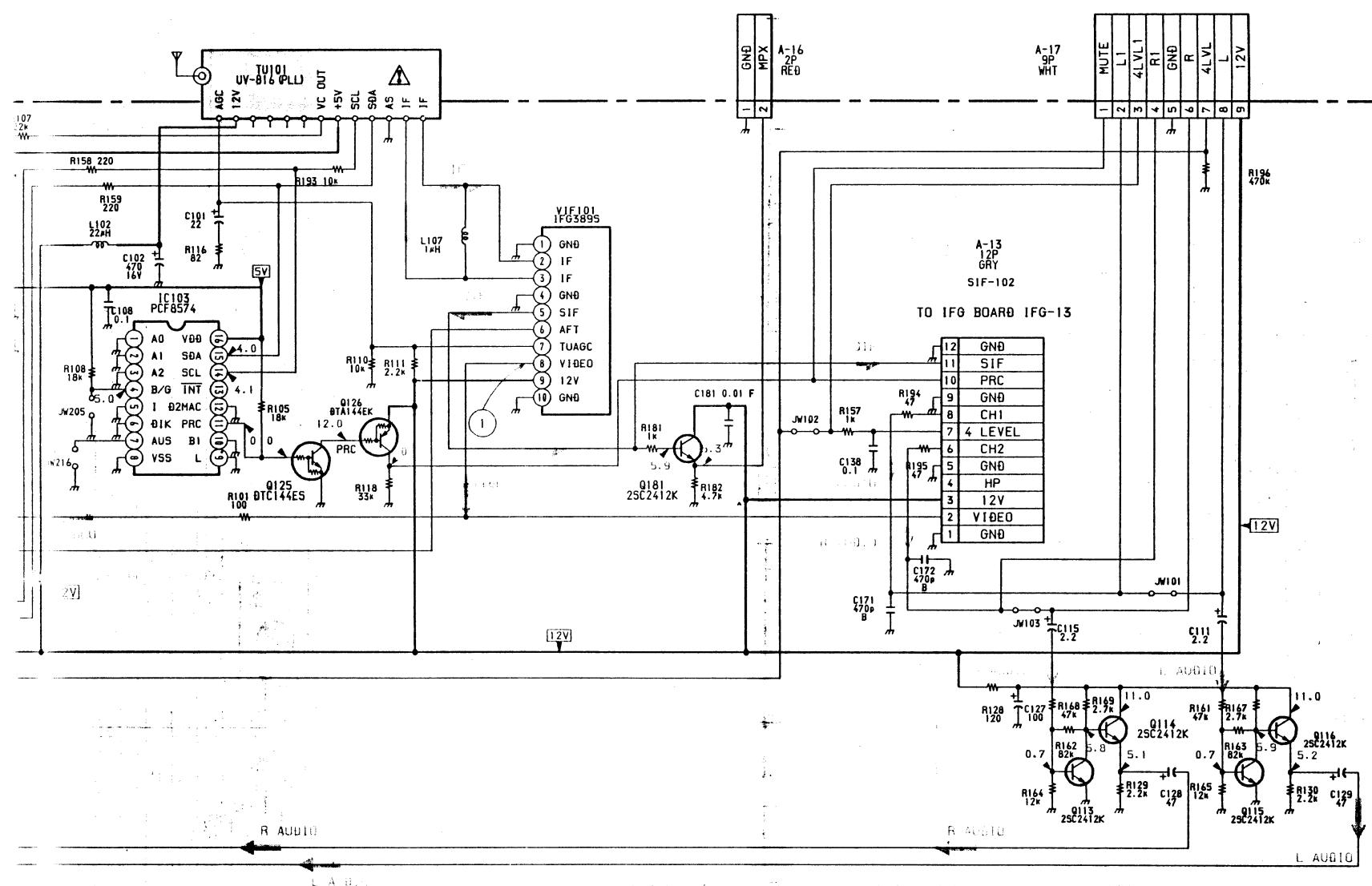


• VM BOARD (KV-C2951D ONLY)

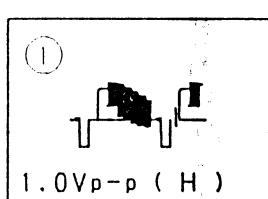
Q751	JC501	REF AMP
Q752	JC501	REF AMP
Q753	2SB734	PUSH-PULL OUT
Q754	2SB774	PUSH-PULL OUT

• H2 BOARD

IC1651	SBX1610-11	INFRARED RECEIVER
Q1651	L0-201VR	AUDIO CHANNEL A INDICATOR
Q1652	L0-201VR	AUDIO CHANNEL B INDICATOR
Q1654	L0-201VR	RESET

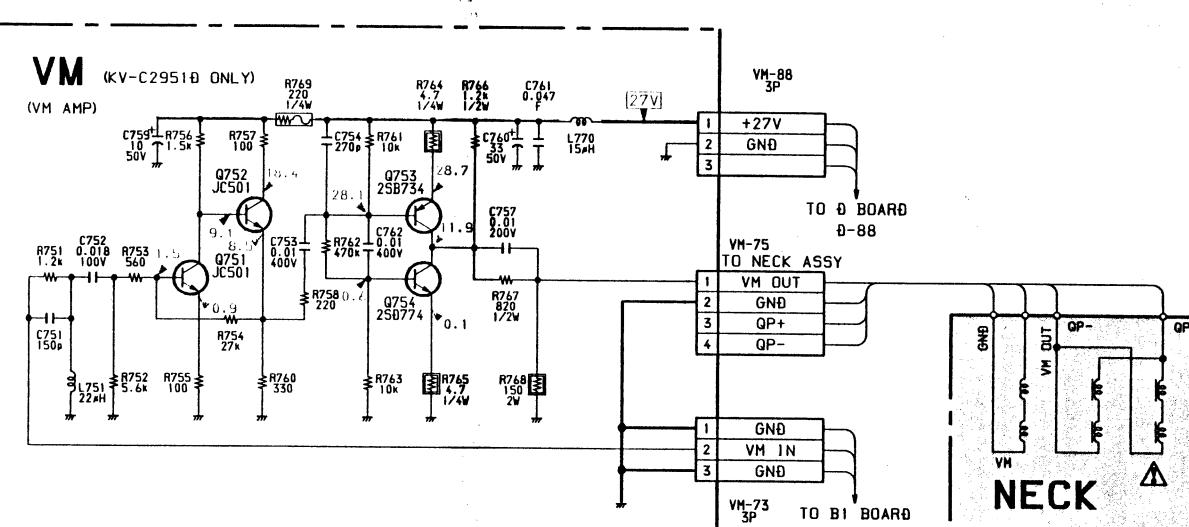
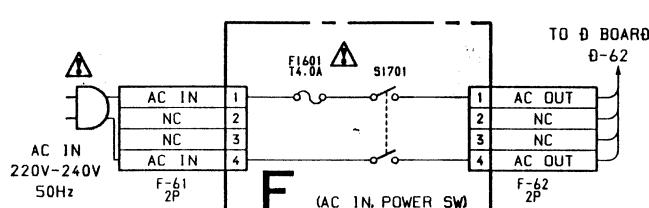


• WAVEFORMS A BOARD



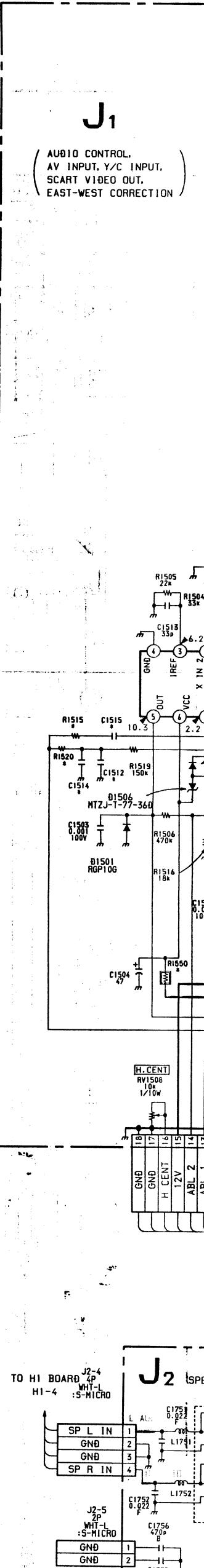
• A BOARD

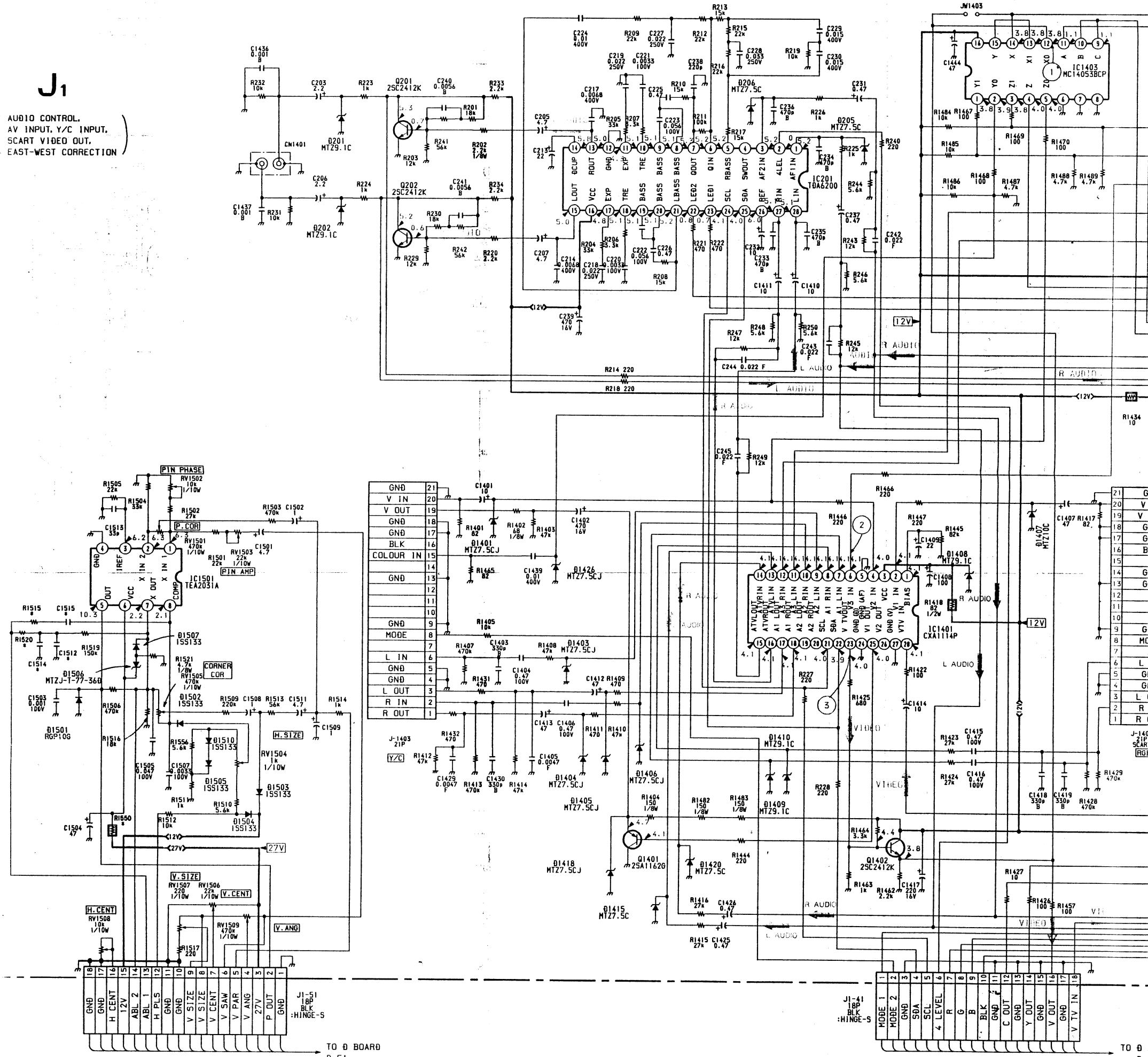
IC103	PCF8574	EXPANDER
Q113	2SC2412K	AUDIO AMP
Q114	2SC2412K	AUDIO AMP
Q115	2SC2412K	AUDIO AMP
Q116	2SC2412K	AUDIO AMP
Q125	DTC144ES	MUTE SW
Q126	DTA144EK	MUTE SW
Q181	2SC2412K	NICAM BUFFER



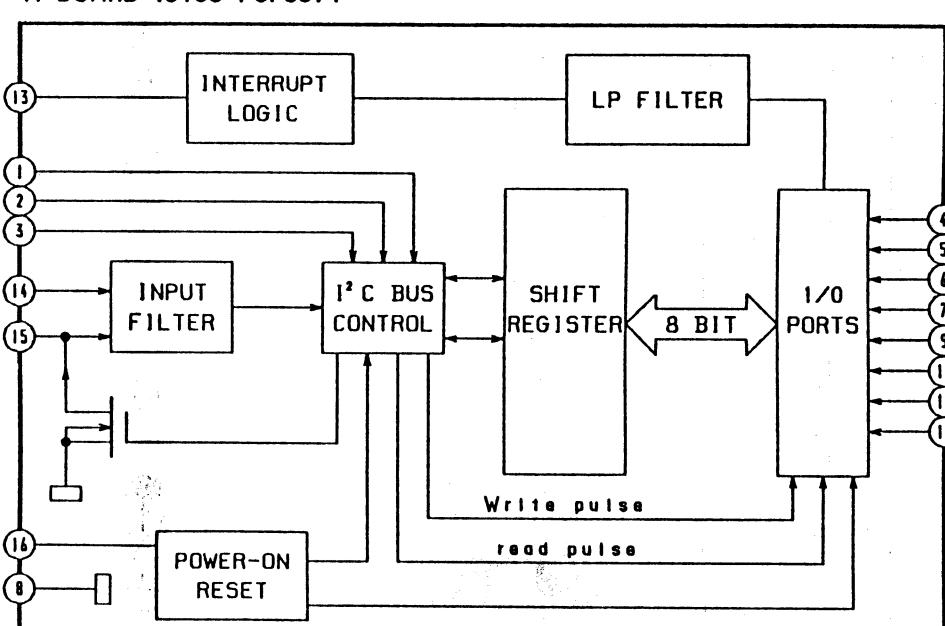
• VM BOARD (KV-C2951D ONLY)

Q751	JC501	REF AMP
Q752	JC501	REF AMP
Q753	2SB734	PUSH-PULL OUT
Q754	2SD774	PUSH-PULL OUT

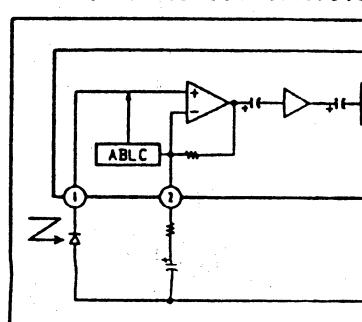




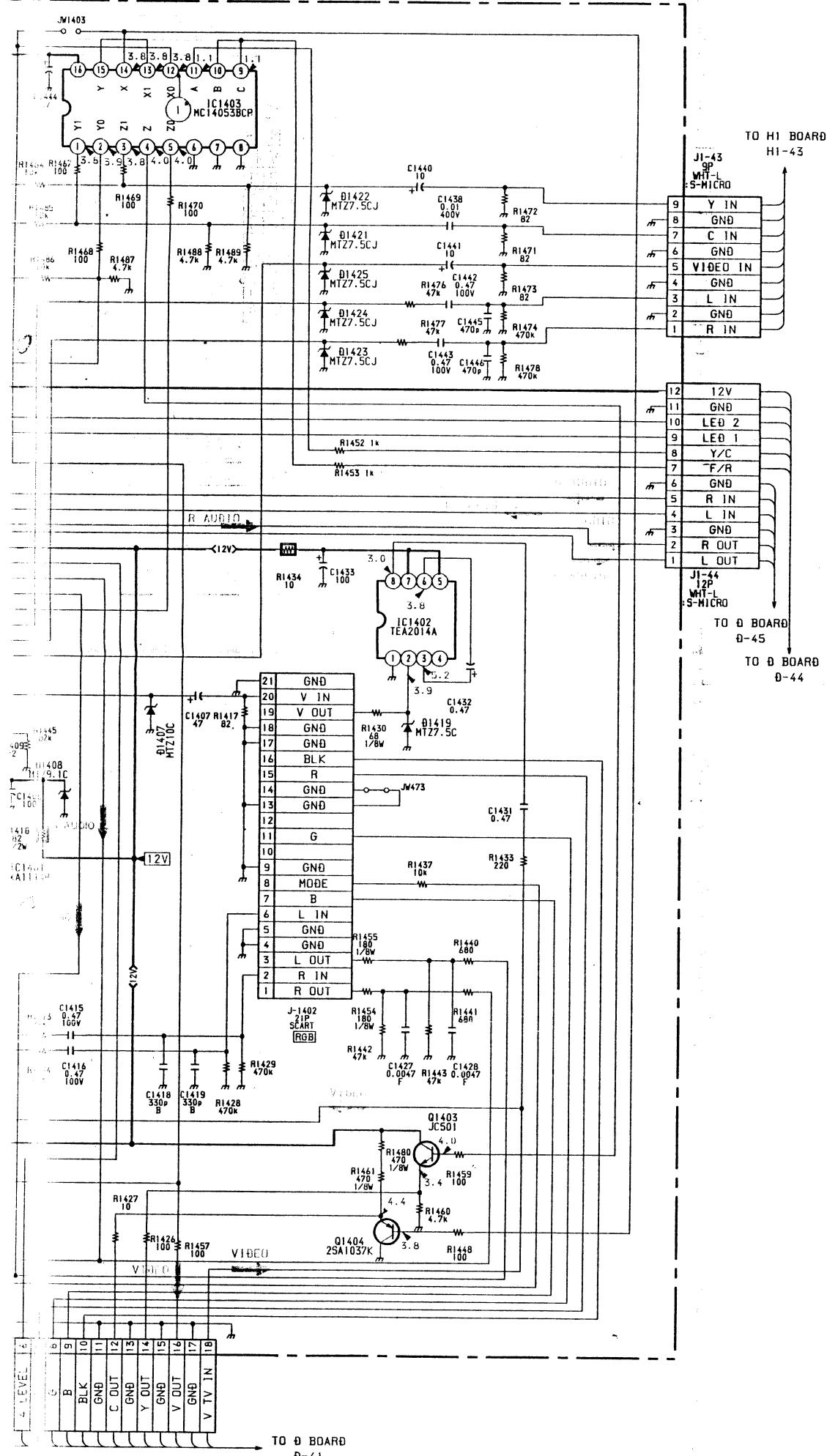
A BOARD IC103 PCE8574



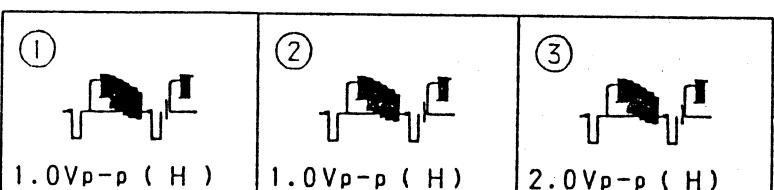
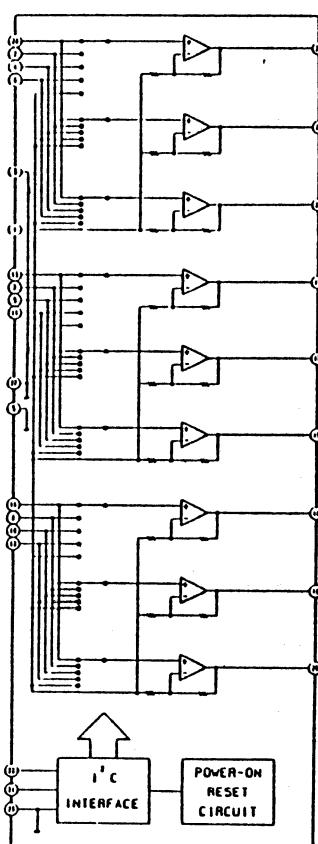
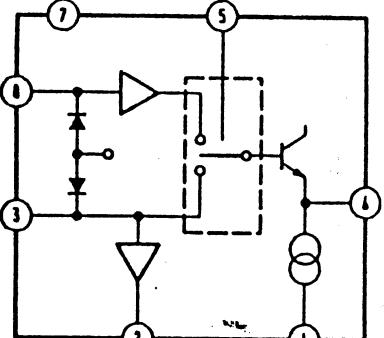
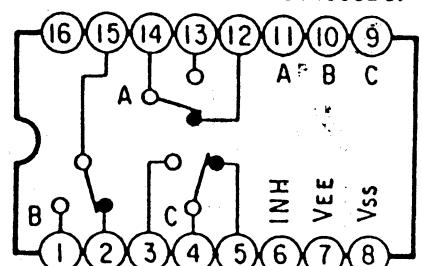
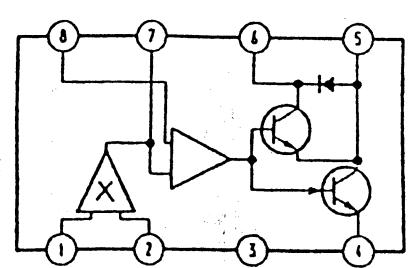
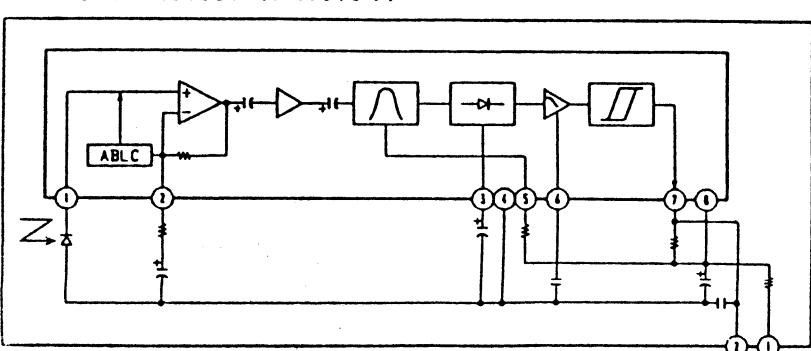
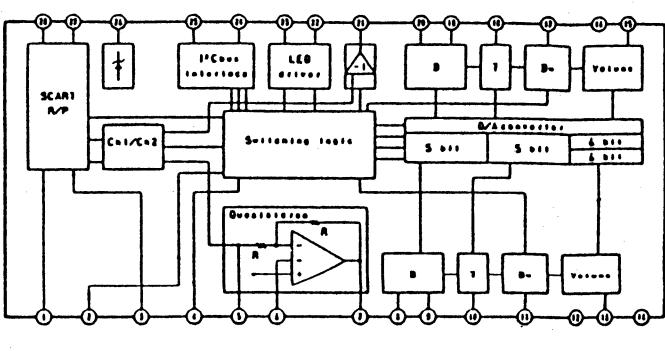
H2 BOARD IC1651 SBX1610



• J1 B
* MAR
KV-C
C1512
C1514
C1515
R1515
R1520

**J1 BOARD**

IC201	TDA6200	AUDIO CONTROL
IC1401	CXA1114P	AV SW
IC1402	TEA2014A	SCART VIDEO OUT
IC1403	MC14053BCP	COMPOSITE Y/C SW
IC1501	TEA2031A	EAST-WEST CORRECTION
Q201	2SC2412K	AUDIO R BUFF
Q202	2SC2412K	AUDIO L BUFF
Q1401	2SA1037K	VIDEO OUT
Q1402	2SC2412K	VIDEO OUT BUFF
Q1403	2SC2412K	Y OUT BUFF
Q1404	2SA1037K	C OUT BUFF
Q201	MTZJ-T-77-9.1C	PROTECT
Q202	MTZJ-T-77-9.1C	PROTECT
Q205	MTZJ-T-77-7.5C	PROTECT
Q206	MTZJ-T-77-7.5C	PROTECT
Q1401	MTZJ-T-77-7.5C	PROTECT
Q1403	MTZJ-T-77-7.5C	PROTECT
Q1404	MTZJ-T-77-7.5C	PROTECT
Q1405	MTZJ-T-77-7.5C	PROTECT
Q1406	MTZJ-T-77-7.5C	PROTECT
Q1407	MTZJ-T-77-10C	PROTECT
Q1408	MTZJ-T-77-9.1C	REG
Q1409	MTZJ-T-77-9.1C	PROTECT
Q1410	MTZJ-T-77-9.1C	PROTECT
Q1415	MTZJ-T-77-7.5C	PROTECT
Q1418	MTZJ-T-77-7.5C	PROTECT
Q1419	MTZJ-T-77-7.5C	PROTECT
Q1420	MTZJ-T-77-7.5C	PROTECT
Q1421	MTZJ-T-77-7.5C	PROTECT
Q1422	MTZJ-T-77-7.5C	PROTECT
Q1423	MTZJ-T-77-7.5C	PROTECT
Q1424	MTZJ-T-77-7.5C	PROTECT
Q1425	MTZJ-T-77-7.5C	PROTECT
Q1426	MTZJ-T-77-7.5C	PROTECT
Q1501	RGP10G	PROTECT
Q1502	ISS133	DECOUPLING H SIZE
Q1503	ISS133	CLIPPING V PARABOLA
Q1504	ISS133	CLIPPING H PULSE
Q1505	ISS133	REG
Q1506	MTZJ-T-77-36D	PROTECT
Q1507	ISS133	PROTECT
Q1510	ISS133	REG

WAVEFORMS J1 BOARD**J1 BOARD IC1401 CXA1114P****J1 BOARD IC1402 TEA2014A****J1 BOARD IC1403 MC14053BCP****J1 BOARD IC1501 TEA2031A****H2 BOARD IC1651 SBX1610-11****J1 BOARD IC201 TDA6200**

• WAVEFORMS B1 BOARD

(1) PAL	(1) SECAM	(1) NTSC3.58/ NTSC4.43	(2) PAL
5.4Vp-p (H)	4.8Vp-p (H)	5.6Vp-p (H)	5.4Vp-p (H)
(2) SECAM	(2) NTSC3.58/ NTSC4.43	(3) PAL	(3) SECAM
4.8Vp-p (H)	5.6Vp-p (H)	5.4Vp-p (H)	5.0Vp-p (H)
(3) NTSC3.58/ NTSC4.43	(4)	(5) PAL	(5) SECAM
6.2Vp-p (H)	10.5Vp-p (H)	0.4Vp-p (H)	0.3Vp-p (H)
(5) NTSC3.58/ NTSC4.43	(6) PAL/SECAM	(6) NTSC3.58/ NTSC4.43	(7) PAL/SECAM
0.6Vp-p (H)	1.1Vp-p (H)	1.2Vp-p (H)	1.4Vp-p (H)
(7) NTSC3.58/ NTSC4.43	(8) PAL	(8) SECAM	(8) NTSC3.58/ NTSC4.43
1.4Vp-p (H)	0.4Vp-p (H)	1.0Vp-p (H)	0.8Vp-p (H)
(9) PAL	(9) SECAM	(9) NTSC3.58/ NTSC4.43	(10) SECAM
0.7Vp-p (H)	1.4Vp-p (H)	0.85Vp-p (H)	0.2Vp-p (H)
(11) SECAM	(12) PAL	(12) SECAM	(12) NTSC3.58/ NTSC4.43
1.2Vp-p (H)	0.16Vp-p (H)	0.2Vp-p (H)	0.3Vp-p (H)
(13) PAL	(13) SECAM	(13) NTSC3.58	(13) NTSC4.43
1.0Vp-p (H)	0.8Vp-p (H)	0.9Vp-p (H)	0.95Vp-p (H)
(14) PAL	(14) SECAM	(14) NTSC3.58	(14) NTSC4.43
0.8Vp-p (H)	0.7Vp-p (H)	0.6Vp-p (H)	0.8Vp-p (H)
(15) PAL	(15) SECAM NTSC3.58 NTSC4.43	(16)	(17) PAL
0.7Vp-p (H)	0.5Vp-p (H)	0.9Vp-p (H)	1.9Vp-p (H)
(17) SECAM NTSC3.58 NTSC4.43	(18) PAL	(18) SECAM	(19) PAL
0.1Vp-p (H)	0.2Vp-p (H)	0.8Vp-p (H)	0.6Vp-p (H)
(19) SECAM	(19) NTSC3.58/ NTSC4.43		
0.8Vp-p (H)	0.9Vp-p (H)		

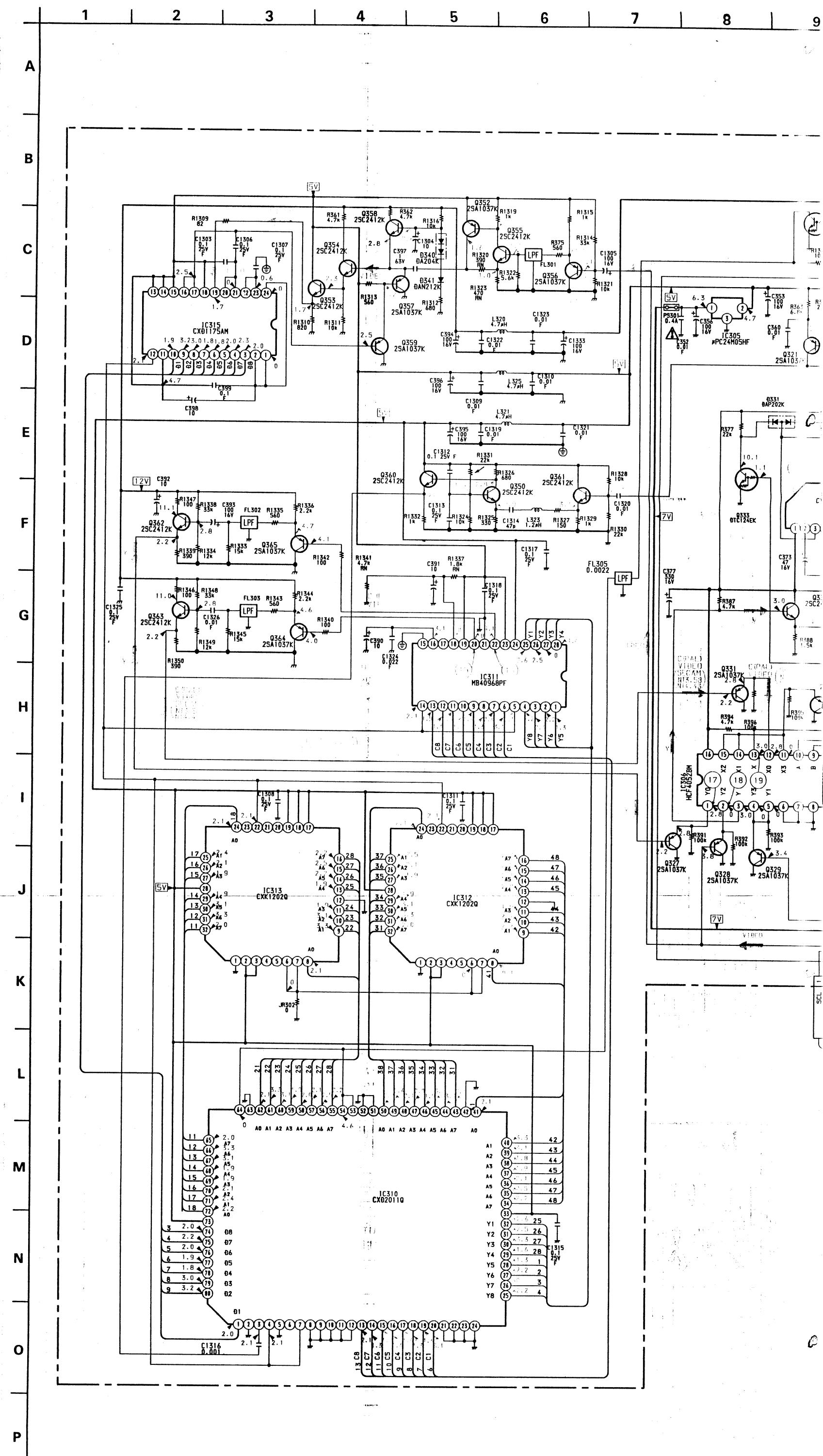
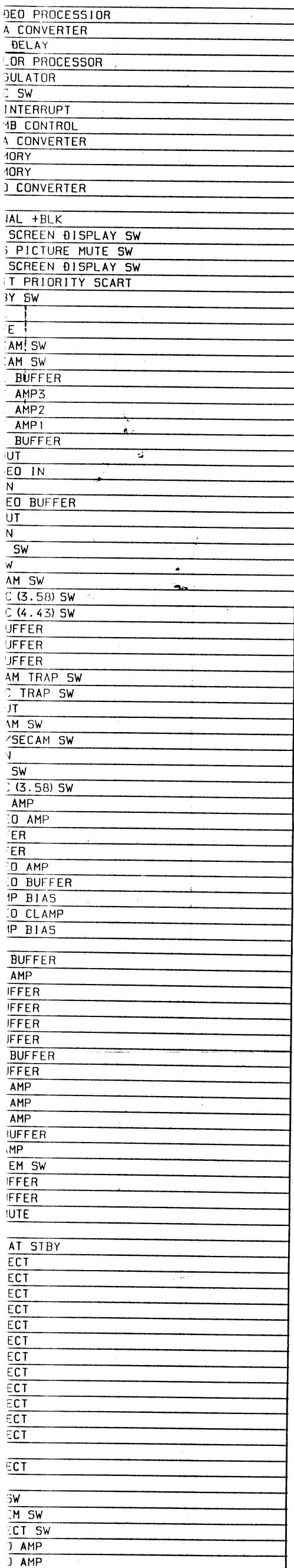
As to the voltage value shown by the mark * on the Schematic Diagram, see the another list.

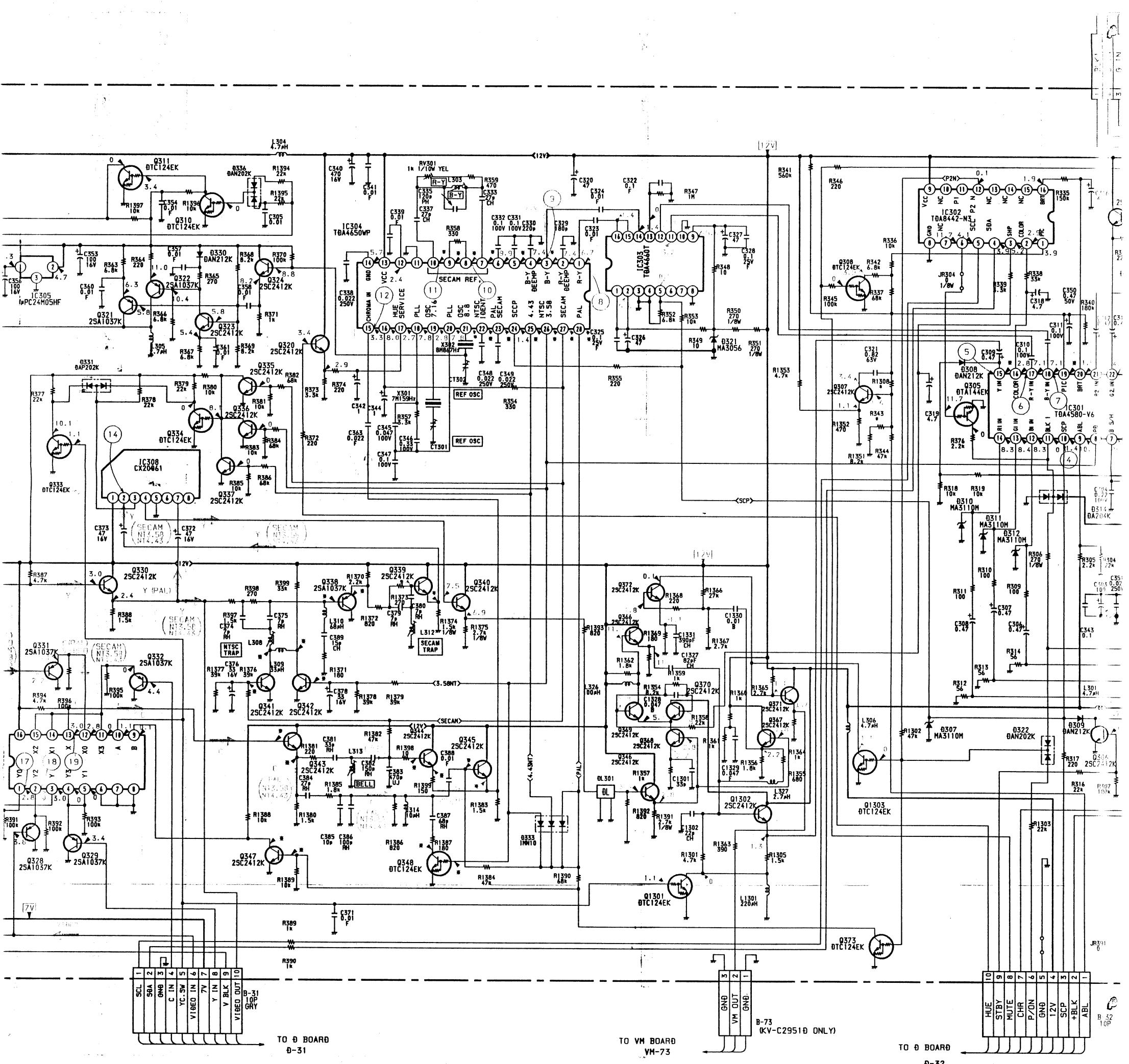
IC·NO	PIN·NO	PAL	SECAM	NTSC 3.38	NTSC 4.43
IC301	(5)	6.7	4.8	4.8	4.8
	(5)	8.9	7.0	7.0	7.0
	(11)	3.4	3.4	3.8	3.4
	(11)	6.6	6.6	6.0	6.3
	(1)	0.1	6.8	6.9	6.8
	(5)	9.9	0	9.9	9.9
	(7)	4.6	0	4.6	4.6
	(1)	3.4	3.0	3.4	3.4
	(1)	3.4	3.0	3.4	3.4
	(11)	4.6	3.4	4.6	4.6
IC304	(11)	2.3	3.1	3.1	2.3
	(11)	5.6	5.6	5.6	7.4
	(11)	7.5	7.5	5.7	5.7
	(5)	0.1	0.1	0.1	6.0
	(5)	0.1	0.1	6.0	0.1
	(5)	0.1	6.0	0.1	0.1
	(5)	6.0	0.1	0.1	0.1
	(5)	6.0	0.1	0.1	0.1
	(5)	6.0	0.1	0.1	0.1
	(5)	6.0	0.1	0.1	0.1

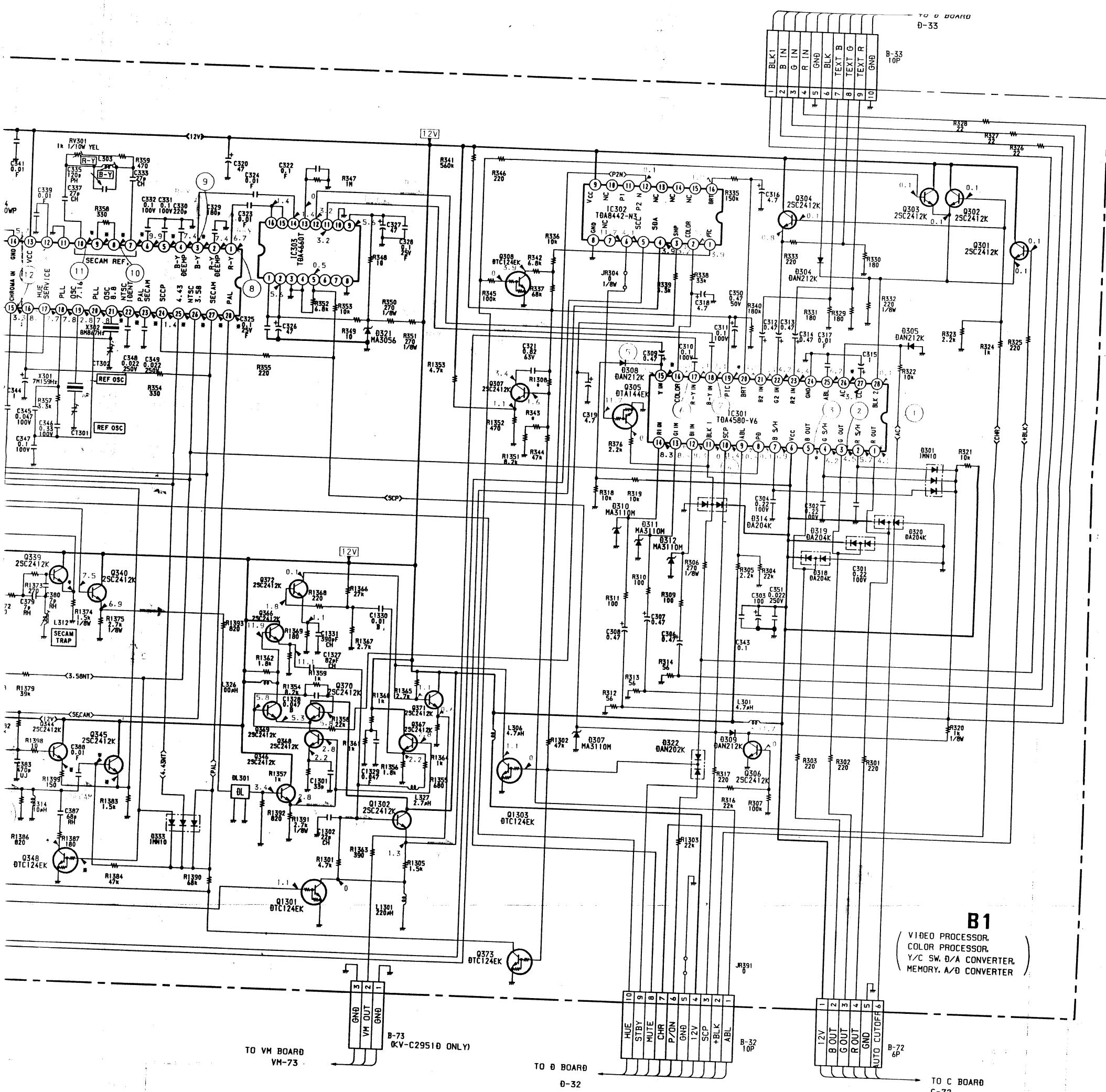
Q·NO	PAL	SECAM	NTSC 3.38	NTSC 4.43
0338	B 2.4	3.9	3.9	3.9
	E 3.0	4.6	4.6	4.6
0339	B 3.0	4.6	4.6	4.6
	E 2.4	3.9	3.9	3.9
0341	B 0	0.6	0.4	0.1
	C 11.6	0	11.6	11.6
0342	B 0	0	0.4	0
	C 11.7	0	11.7	11.7
0343	B 3.4	5.4	5.3	5.3
	E 2.8	4.7	4.7	4.7
0344	B 0	5.4	1.0	0.1
	E 4.4	4.8	1.5	4.5
0345	B 5.0	0.1	1.9	5.0
	E 4.4	4.4	1.4	4.4
0347	B 0.6	0	0	0
	C 0.1	11.9	11.9	11.9
0348	B 0.1	0.1	1.0	0.1
	C 1.3	0.2	0.2	0.4

• B1 BOARD

IC301	TDA4580-V6	VIDEO PROCESSOR
IC302	TDA8442-N3	D/A CONVERTER
IC303	TDA4660T	1H DELAY
IC304	TDA4650WP	COLOR PROCESSOR
IC305	μPC24M05HF	REGULATOR
IC306	HCF4052BM	Y/C SW
IC308	CX20061	Y INTERRUPT
IC310	CX02011Q	COMB CONTROL
IC311	MB40968PF	D/A CONVERTER
IC312	CXK1202Q	MEMORY
IC313	CXK1202Q	MEMORY
IC315	CX01175AM	A/D CONVERTER
Q301	ZSC2412K	CANAL +BLK
Q302	ZSC2412K	ON SCREEN DISPLAY SW
Q303	ZSC2412K	FAS PICTURE MUTE SW
Q304	ZSC2412K	ON SCREEN DISPLAY SW
Q305	DTA144EK	ANIT PRIORITY SCART
Q306	ZSC2412K	STBY SW
Q307	ZSC2412K	ABL
Q308	DTG124EK	MUTE
Q310	DTG124EK	SECAM SW
Q311	DTG124EK	SECAM SW
Q320	ZSC2412K	HUE BUFFER
Q321	2SA1037K	CLK AMP3
Q322	2SA1037K	CLK AMP2
Q323	ZSC2412K	CLK AMP1
Q324	ZSC2412K	CLK BUFFER
Q327	2SA1037K	Y OUT
Q328	2SA1037K	VIDEO IN
Q329	2SA1037K	Y IN
Q330	ZSC2412K	VIDEO BUFFER
Q331	2SA1037K	C OUT
Q332	2SA1037K	C IN
Q333	DTG124EK	Y/C SW
Q334	DTG124EK	Y SW
Q335	ZSC2412K	SECAM SW
Q336	ZSC2412K	NTSC (3.58) SW
Q337	ZSC2412K	NTSC (4.43) SW
Q338	2SA1037K	Y BUFFER
Q339	ZSC2412K	Y BUFFER
Q340	ZSC2412K	Y BUFFER
Q341	ZSC2412K	SECAM TRAP SW
Q342	ZSC2412K	NTSC TRAP SW
Q343	ZSC2412K	C OUT
Q344	ZSC2412K	SECAM SW
Q345	ZSC2412K	PAL/SECAM SW
Q346	ZSC2412K	Y IN
Q347	ZSC2412K	PAL SW
Q348	DTG124EK	NTSC (3.58) SW
Q350	ZSC2412K	CLK AMP
Q352	2SA1037K	VIDEO AMP
Q353	ZSC2412K	BUFFER
Q354	ZSC2412K	BUFFER
Q355	ZSC2412K	VIDEO AMP
Q356	2SA1037K	VIDEO BUFFER
Q357	2SA1037K	CLAMP BIAS
Q358	ZSC2412K	VIDEO CLAMP
Q359	2SA1037K	CLAMP BIAS
Q360	ZSC2412K	CLK BUFFER
Q361	ZSC2412K	CLK AMP
Q362	ZSC2412K	Y BUFFER
Q363	ZSC2412K	C BUFFER
Q364	2SA1037K	C BUFFER
Q365	2SA1037K	Y BUFFER
Q366	ZSC2412K	SHP BUFFER
Q367	ZSC2412K	SHP AMP
Q368	ZSC2412K	SHP AMP
Q369	ZSC2412K	SHP AMP
Q370	ZSC2412K	SHP AMP
Q371	ZSC2412K	VM BUFFER
Q372	ZSC2412K	VM AMP
Q373	DTG124EK	SYSTEM SW
Q1301	DTG124EK	Y BUFFER
Q1302	ZSC2412K	Y BUFFER
Q1303	DTG124EK	VM MUTE
D301	IMN10	ACO AT STBY
D304	DAN212K	PROTECT
D305	DAN212K	PROTECT
D307	MA3110M	PROTECT
D308	DAN212K	PROTECT
D309	DAN212K	PROTECT
D310	MA3110M	PROTECT
D311		

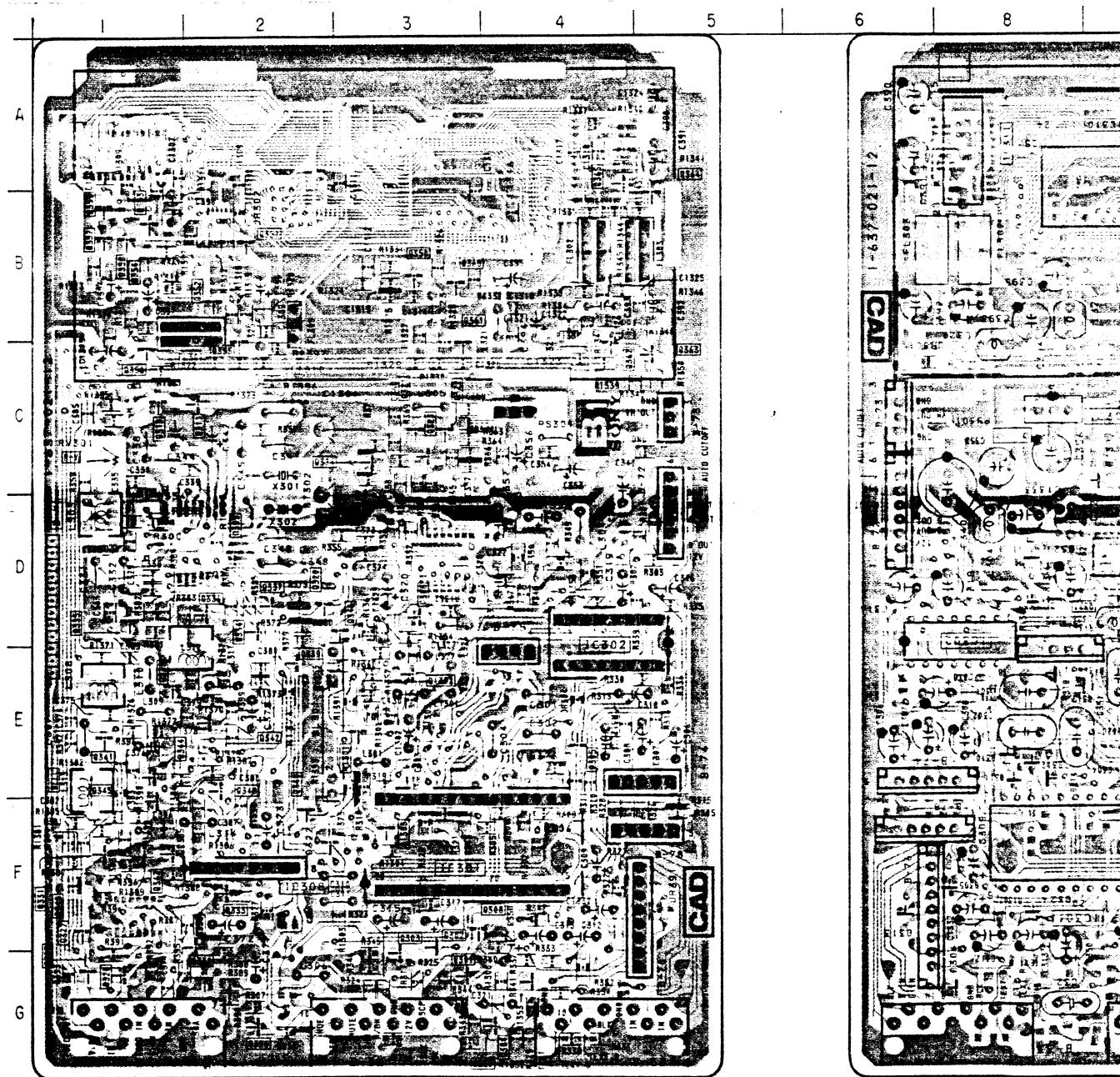






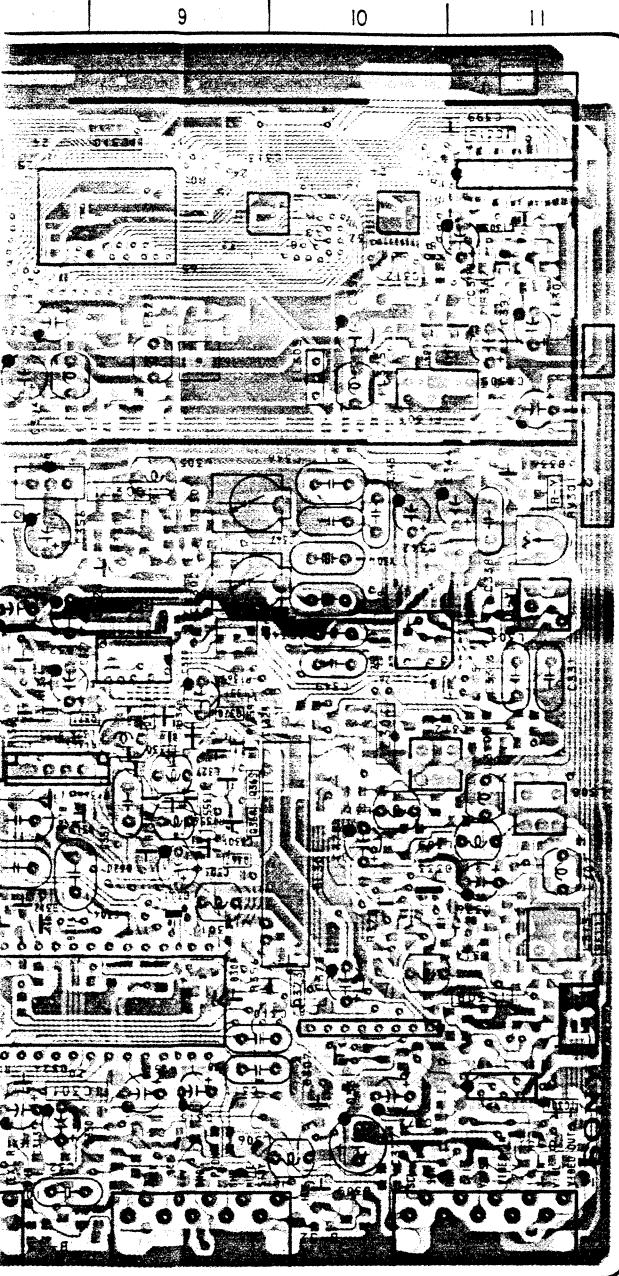
B1[VIDEO PROCESSOR, COLOR PROCESSOR,
Y/C SW, D/A CONVERTER, MEMORY,
CONVERTER]

Note :

-B1 Board-

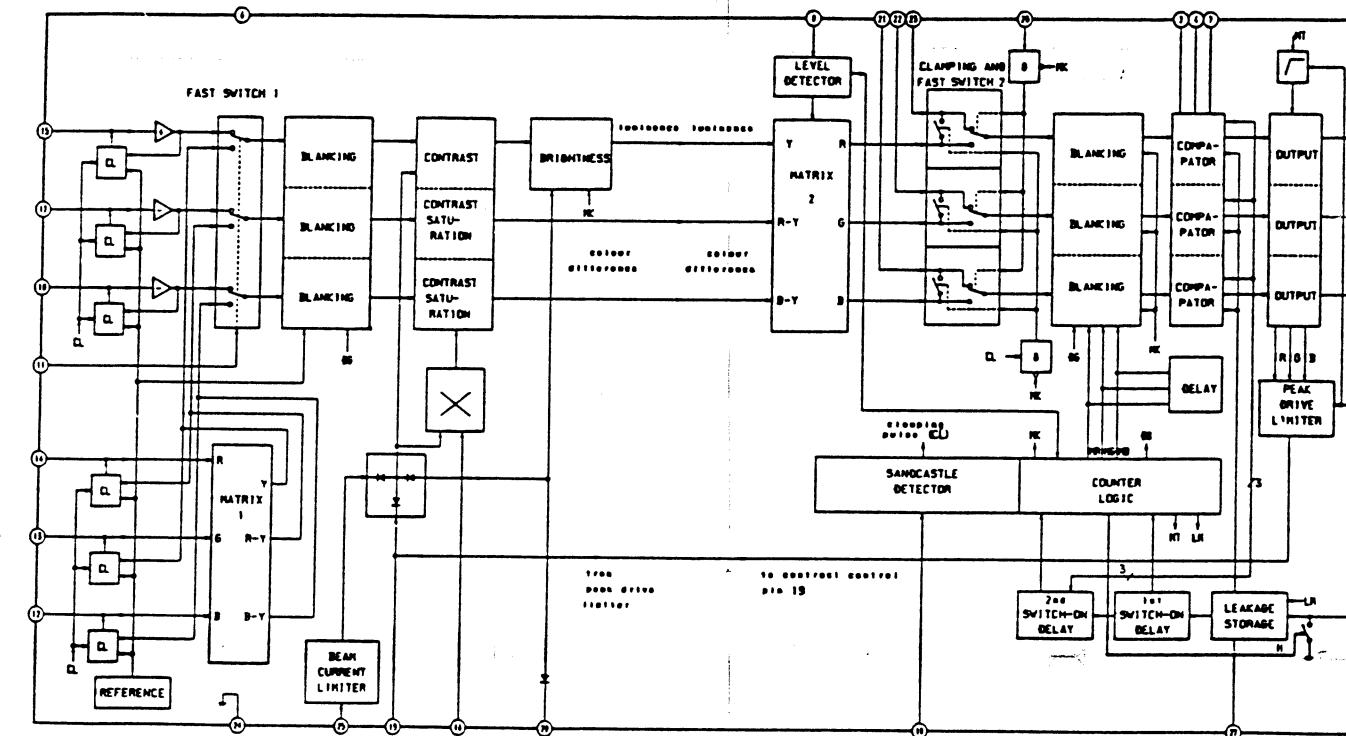
Note :

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

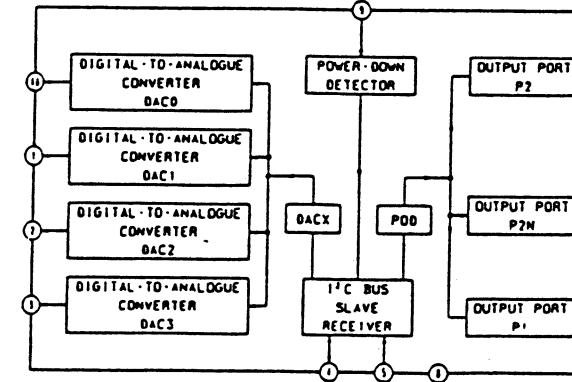


IC		
IC301	F-8	Q362 C-4
IC302	E-8	Q363 C-5
IC303	D-9	Q364 B-5
IC304	D-10	Q365 A-4
IC305	C-8	Q366 D-3
IC306	F-11	Q367 E-9
IC308	F-10	Q368 E-9
IC310	A-9	Q369 E-9
IC311	A-8	Q370 D-9
IC312	A-10	Q371 D-9
IC313	A-9	Q372 F-10
IC315	A-11	Q1301 E-3
		Q1302 E-3
		Q1303 F-3
TRANSISTOR		
DIODE		
Q301	G-3	D301 E-9
Q302	F-3	D304 G-8
Q303	F-3	D305 F-8
Q304	G-4	D307 F-10
Q305	E-4	D308 F-9
Q306	G-2	D309 G-10
Q307	G-4	D310 E-8
Q308	F-3	D311 E-8
Q310	C-1	D312 E-8
Q311	C-2	D314 E-8
Q320	D-2	D318 E-8
Q321	C-3	D319 E-8
Q322	C-3	D320 E-9
Q323	C-3	D321 D-8
Q324	C-3	D322 F-2
Q327	F-1	D330 D-9
Q328	G-1	D331 F-10
Q329	G-1	D333 E-10
Q330	F-2	D336 C-11
Q331	F-1	D340 B-10
Q332	G-2	D341 B-11
VARIABLE RESISTOR		
RV301	C-11	
TRIMMER		
CT301	C-9	
CT302	C-9	
COIL		
L303	D-11	
L308	E-11	
L312	D-10	
L313	E-11	
L309	B-1	
L310	B-3	
L311	B-2	
L314	B-1	
L305	C-2	
L306	C-1	
L315	B-1	
L316	B-1	
L317	B-3	
L318	C-3	

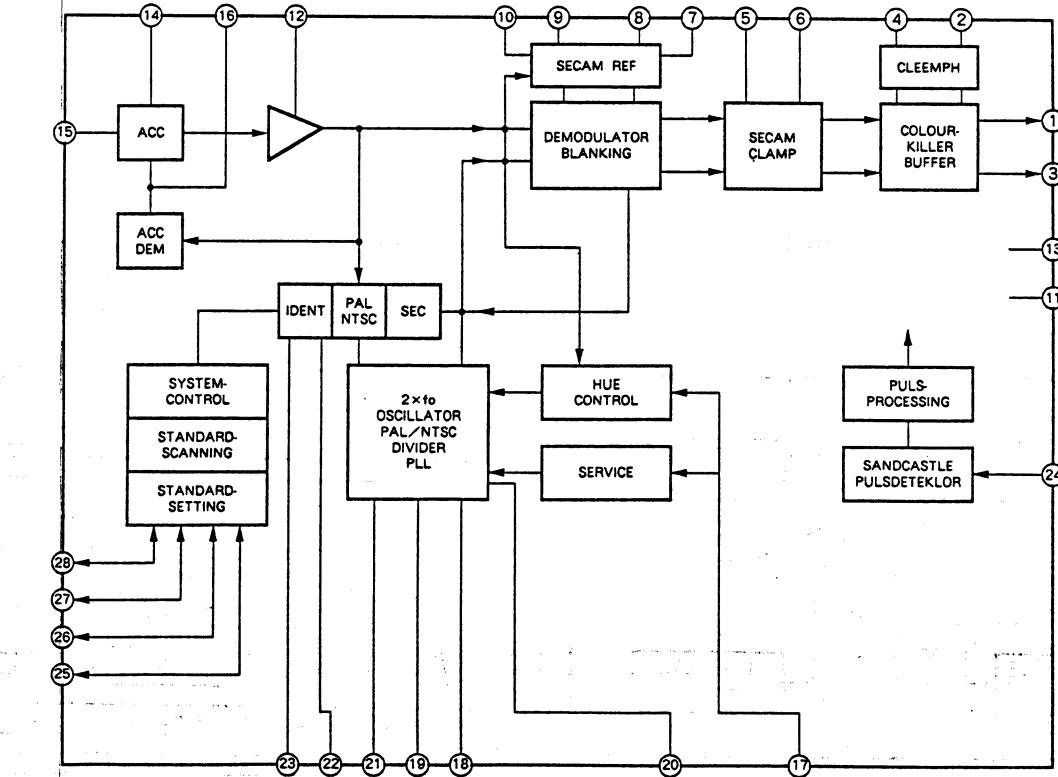
B1 BOARD IC301 TDA4580-V6



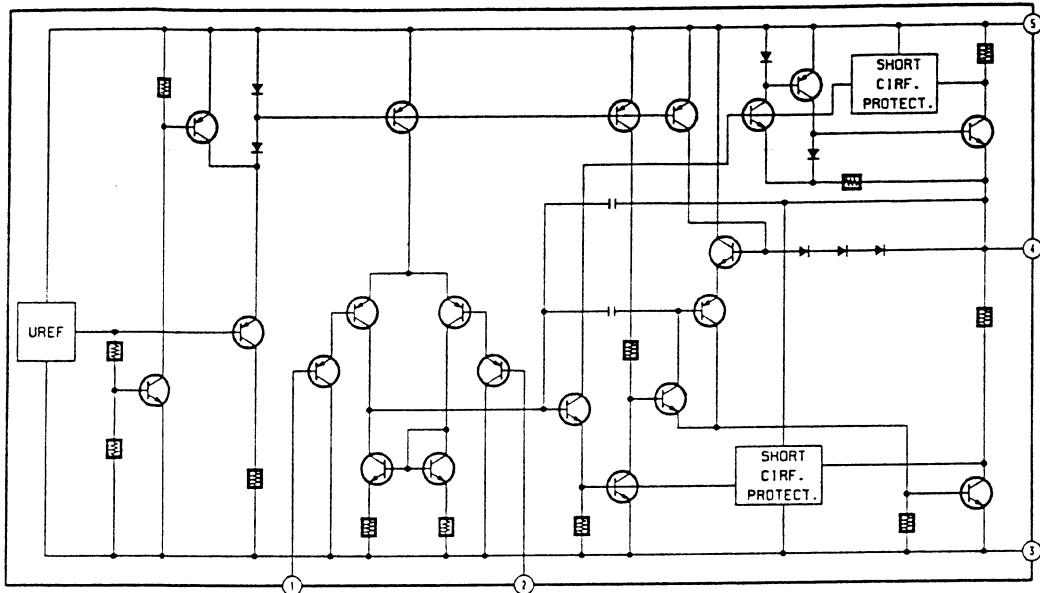
B1 BOARD IC302 TDA8442-N3



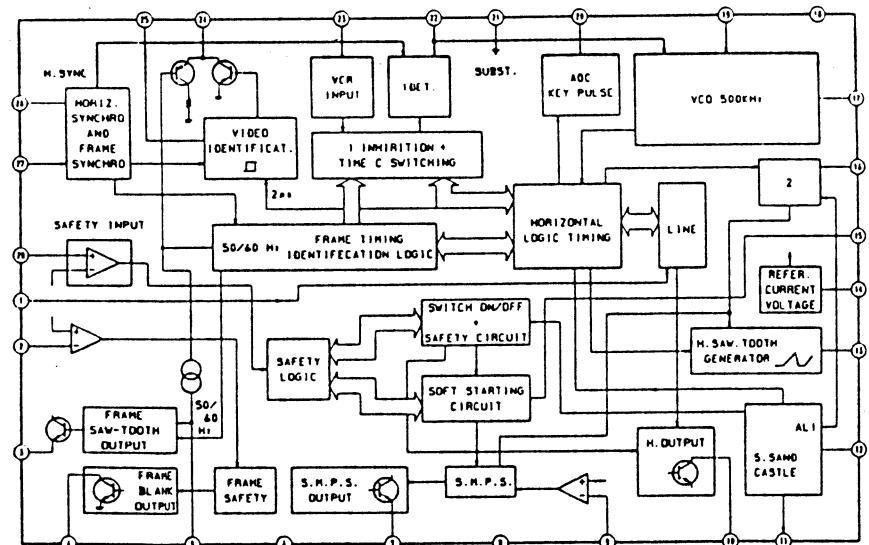
B1 BOARD IC303 TDA4660T



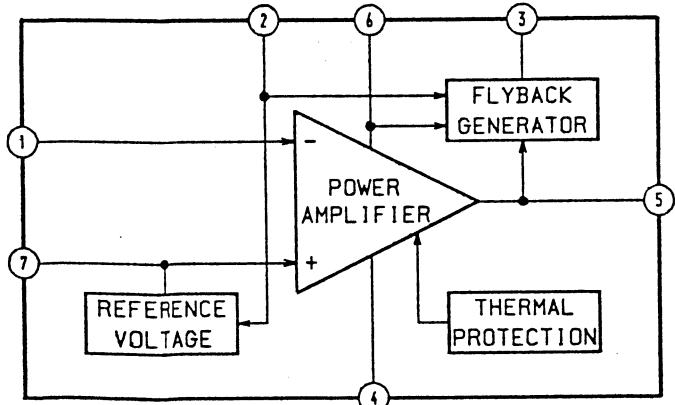
D BOARD IC251/261 TDA2050



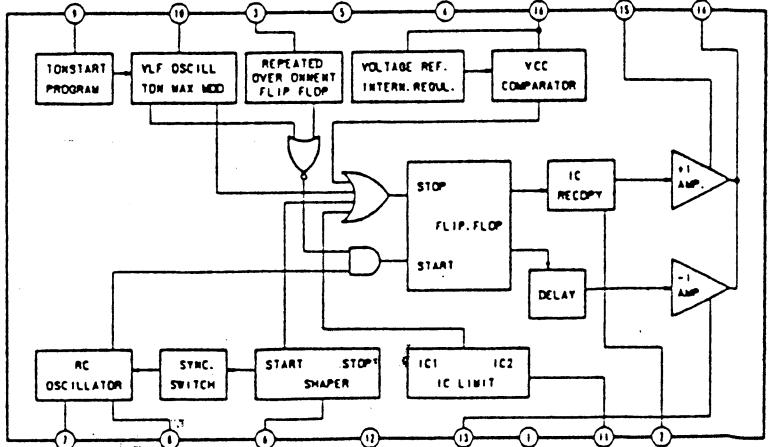
D BOARD IC501 TEA2028B



D BOARD IC502 TDA8170



D BOARD IC601 TEA2260

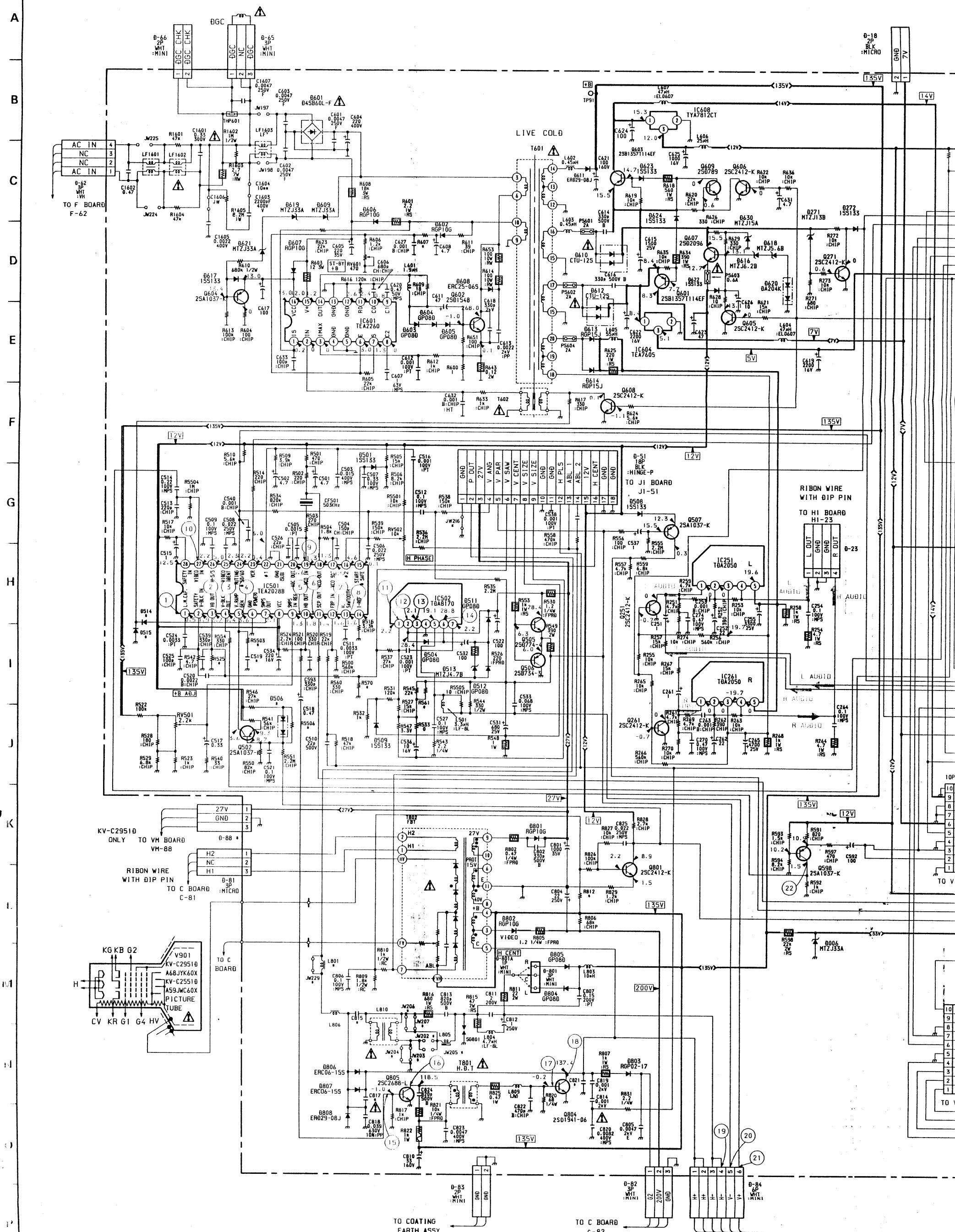


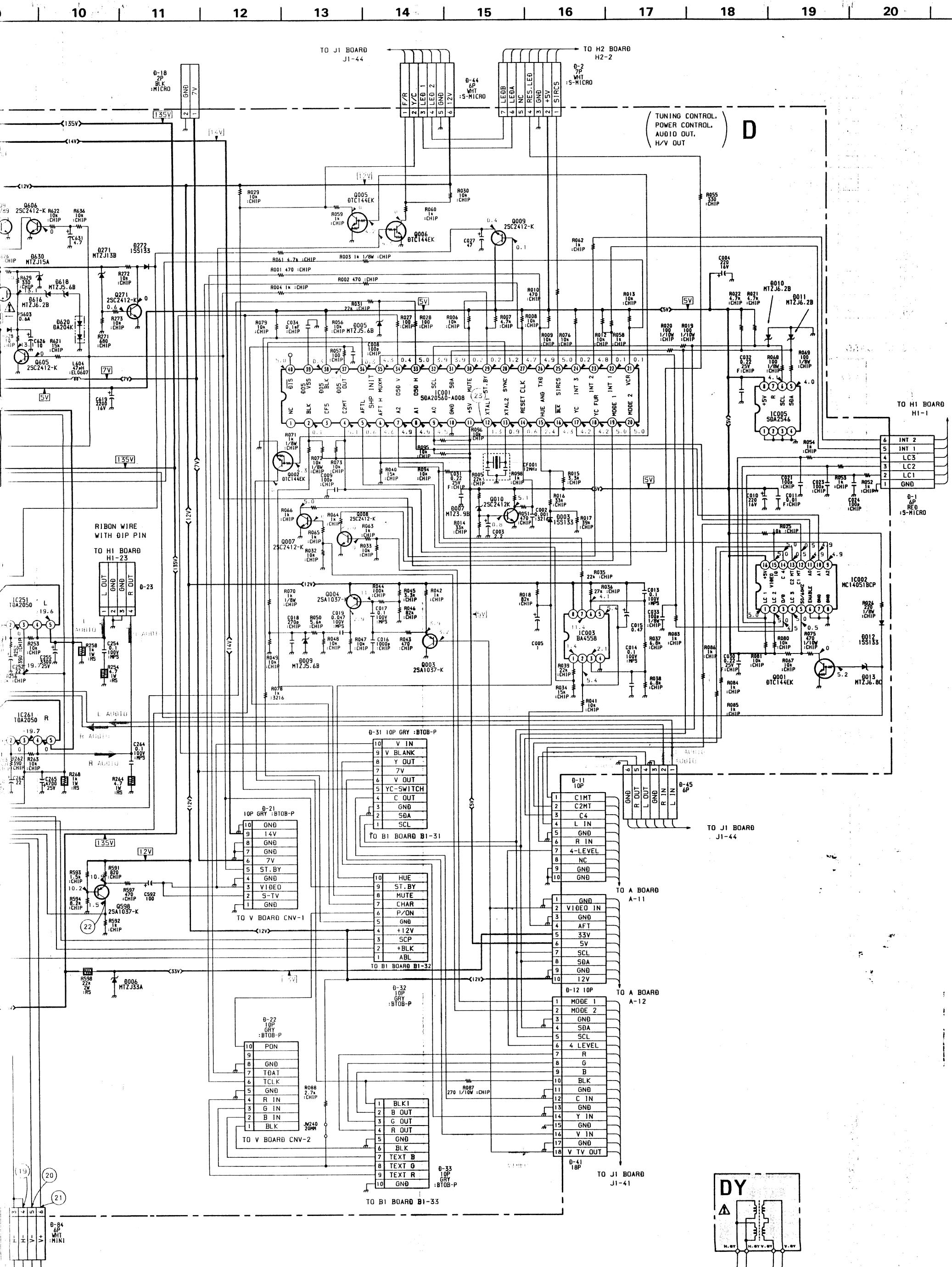
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

D [TUNING CONTROL, POWER CONTROL,
AUDIO OUT, H/V OUT]

-D Board-

IC	D013	D-2
IC001	B-1	D271
IC002	D-2	D272
IC003	C-1	D501
IC005	G-2	D504
IC251	F-4	D506
IC261	D-4	D508
IC501	G-6	D509
IC502	E-5	D511
IC601	A-6	D512
IC604	A-4	D513
IC608	A-3	D514
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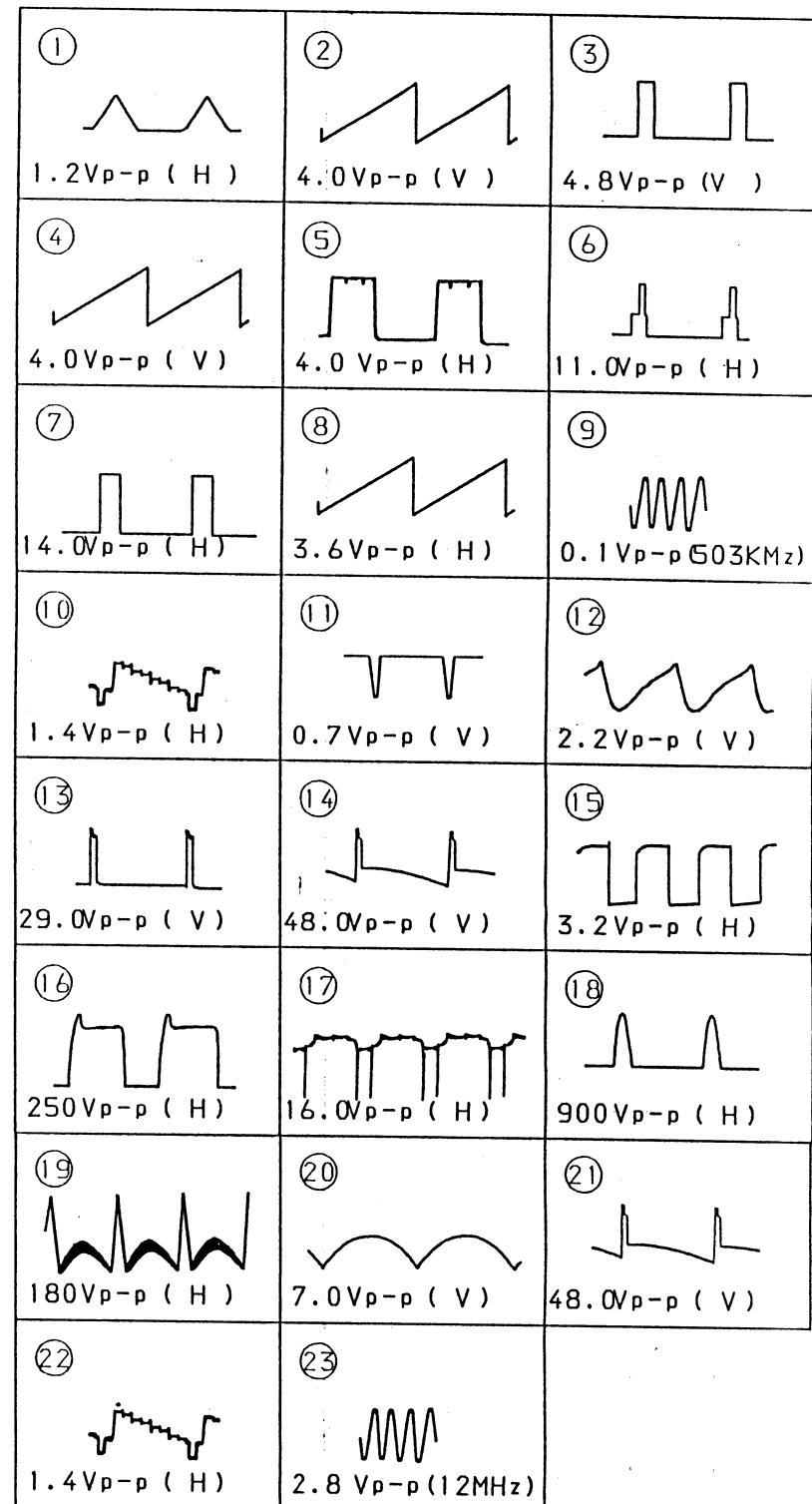


• D BOARD

IC001	S0A20560-A008	TUNING CTL
IC002	MC14051BCP	ON SCREEN DISPLAY
IC003	BA4558	AFT COMPARATOR
IC005	S0A2546	MEMORY
IC251	TDA2050	AUDIO OUT (L)
IC261	TDA2050	AUDIO OUT (R)
IC501	TEA2028B	DEFLECTION PROCESSOR
IC502	TDA8170	V OUT
IC601	TEA2260	PRIMARY SMPS CTL
IC604	TEA7605	+5V REG
IC608	TYA7812CT	+12V REG
Q001	DTG144EK	50/60Hz SW
Q002	DTG144EK	BLK SW
Q003	2SA1037-K	SYNC SEPARATOR
Q004	2SA1037-K	SYNC SEPARATOR
Q005	DTG144EK	Y/C SW
Q006	DTG144EK	FRONT/REAR SW
Q007	2SC2412-K	MODE 2 SWITCH
Q008	2SC2412-K	MODE 1 SWITCH
Q009	2SC2412-K	MUTE SW
Q010	2SC2412-K	RESET
Q251	2SC2412-K	AUDIO MUTE
Q261	2SC2412-K	AUDIO MUTE
Q271	2SC2412-K	VOLTAGE DETECT
Q502	2SA1037-K	CONSTANT CURRENT SOURCE
Q505	2SD774-4	V CENT
Q506	2SB743-3	V CENT
Q507	2SA1037-K	CANAL +BLK
Q598	2SA1037-K	VIDEO AMP
Q601	2SB1357T114EF	STBY SW
Q602	2SB1548	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037-K	FAST ON/OFF
Q605	2SC2412-K	STBY SW
Q606	2SC2412-K	STBY SW
Q607	2SD2096-EF	+12V REG
Q608	2SC2412-K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412-K	ABL AMP
Q804	2SB1941-06	H OUT
Q805	2SC2688	H DRIVER
Q003	ISS133	HUE CTL
Q005	MTZJ5.6B	PROT
Q006	MTZJ33A	VC VOLTGE REGULATION
Q007	MTZJ3.9B	PLOT RESET
Q009	MTZJ5.6B	CLIPPING SYNC LEVEL
Q010	MTZJ6.2B	PROT
Q011	MTZJ6.2B	PROT
Q012	ISS133	PROT
Q013	MTZJ6.8C	PROT
Q271	MTZJ13B	VOLTAGE DETECT
Q272	ISS133	DECOUPLING MUTE AUDIO
Q501	ISS133	START
Q504	GP08D	V PULSE OUT
Q506	DA204K	CURRENT (KV-C2551D ONLY)
Q508	ISS133	CANEL +BLK LEVEL
Q509	ISS133	V LIN
Q511	GP08D	PROT
Q512	GP08D	PROT
Q513	MTZJ4.7B	PROT
Q514	ISS133	PROT (KV-C2951D ONLY)
Q515	ISS133	PROT (KV-C2951D ONLY)
Q601	04SB60L-F	AC RECT
Q602	RGP10G	REF RECT
Q603	GP08D	SMPS DRIVE 1
Q604	GP08D	SMPS DRIVE 2
Q605	GP08D	SMPS DRIVE 3
Q606	RGP10G	+12V RECT
Q607	RGP10G	REF RECT
Q608	ERC25-06S	PLUSE CLIPPER
Q609	MTZJ33A	FAST ON/OFF-1
Q610	CTU-12S	+14V RECT
Q611	ERD29-08J	+135V RECT
Q612	CTU-12S	+7V RECT
Q613	RGP15J	AF V RECT-1
Q614	RGP15J	AF V RECT-2
Q616	MTZJ6.2B	+12V REF
Q617	ISS133	PRIT
Q618	MTZJ5.6B	+12V REF
Q619	MTZJ33A	FAST ON/OFF-2
Q620	DA204K	+12V REF
Q621	MTZJ33A	FAST ON/OFF-3
Q622	ISS133	PROT
Q623	ISS133	DECOUPLING STBY
Q624	ISS133	DECOUPLING STBY
Q630	MTZJ15A	+12V REF
Q801	RGP10G	+27V RECT
Q802	RGP10G	+200V RECT
Q803	RGP02-17	G2 RECT
Q804	GP08D	H CENTER-1
Q805	GP08D	H CENTER-2
Q806	ERC06-15S	H DAMPER-1
Q807	ERC06-15S	H DAMPER-2
Q808	ERD29-08J	PIN DAMPER

H1 BOARD
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MICRO

• WAVEFORMS D BOARD

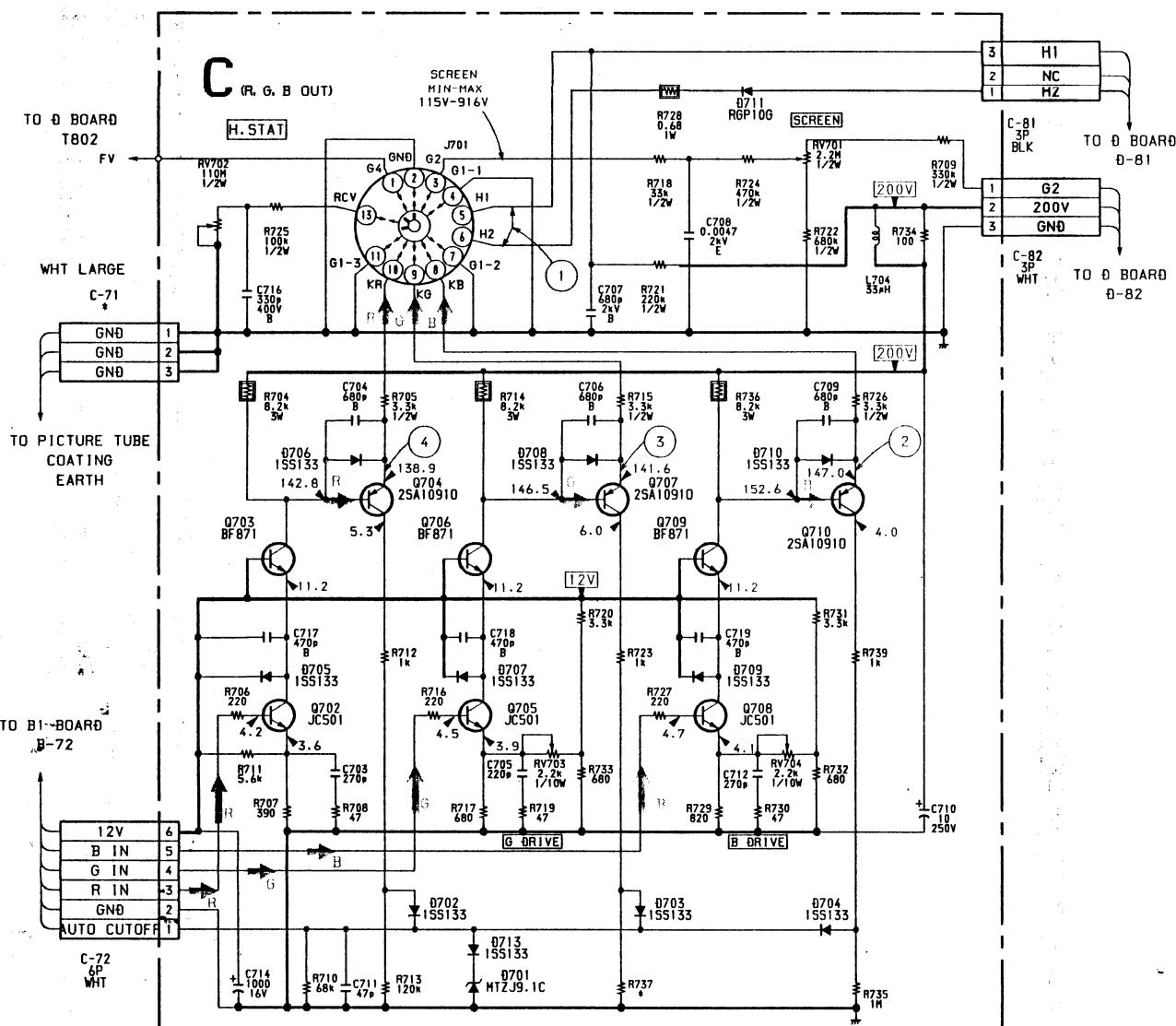


• D BOARD

* MARK

KV-C2551D	KV-C2951D
C519 0.47	C519 0.33
C815 1	C815 0.82
C817 0.015	C817 0.017
C821 680p 2kV	C821 470p 2kV
Q506 DA204K	Q506 —
Q514 JW	Q514 ISS133
Q515 —	Q515 ISS133
D-88 —	D-88 3P
JW202 —	JW202 X
JW203 X	JW203 —
JW204 X	JW204 —
JW205 —	JW205 X
JW206 X	JW206 —
JW207 X	JW207 —
JW216 X	JW216 —
JW229 X	JW229 —
L801 —	L801 3.9mH
R525 1k	R525 —
R561 —	R561 270k
R570 —	R570 680
R607 4.7k	R607 5.6k
R812 68k	R812 51k
R5503 4.7	R5503 10
R5506 —	R5506 12k

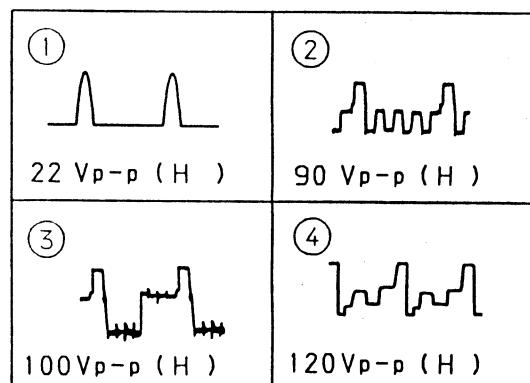
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X TO BE MOUNTED



• C BOARD

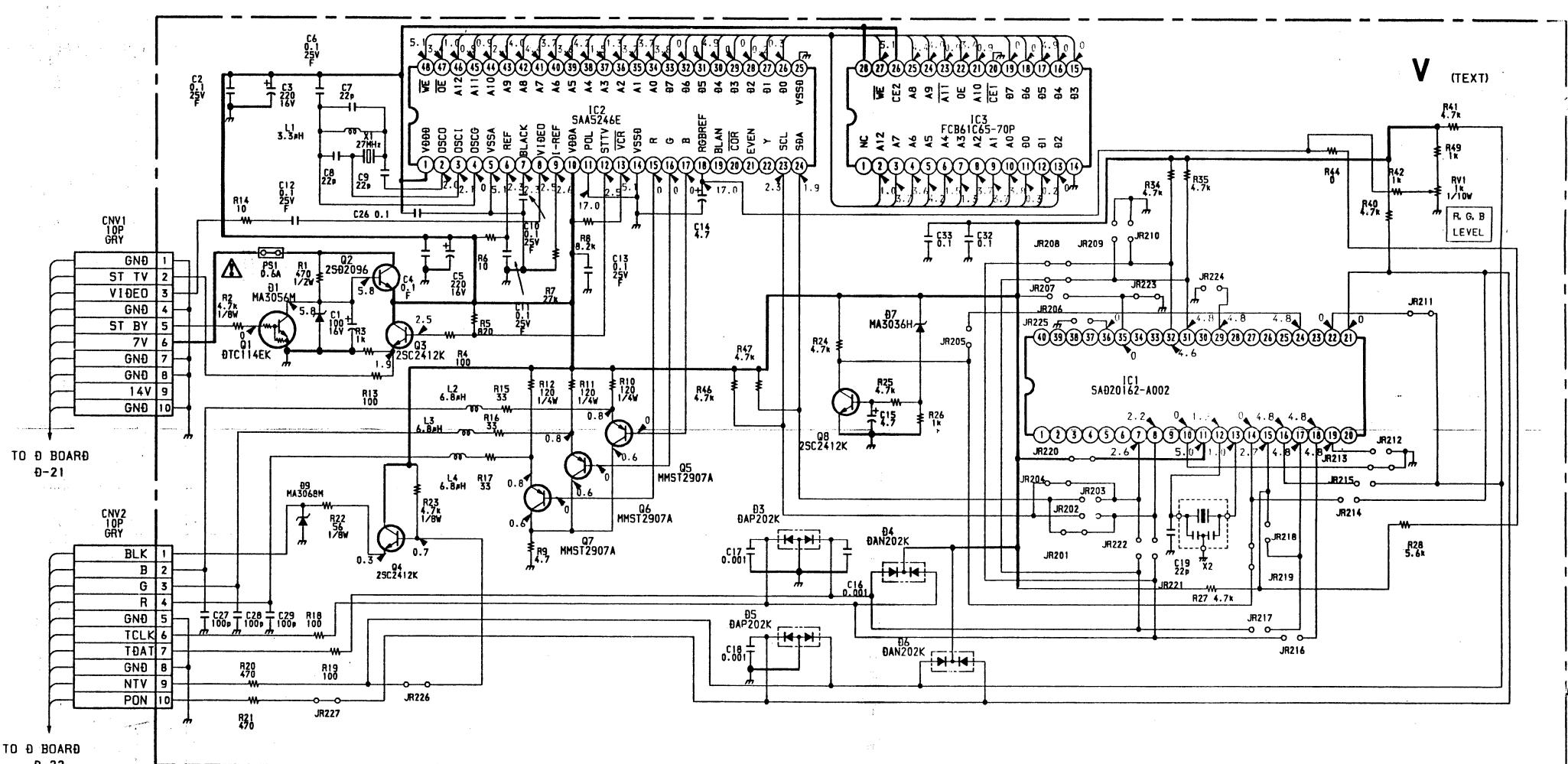
Q702	JC501	R DRIVE
Q703	BF871	R OUT
Q704	2SA10910	ACO MEASURING
Q705	JC501	G DRIVE
Q706	BF871	G OUT
Q707	2SA10910	ACO MEASURING
Q708	JC501	B DRIVE
Q709	BF871	B OUT
Q710	2SA10910	ACO MEASURING
0701	MTZJ9.1C	PROTECT
0702	ISS133	PROTECT
0703	ISS133	PROTECT
0704	ISS133	PROTECT
0705	ISS133	PROTECT
0706	ISS133	PROTECT
0707	ISS133	PROTECT
0708	ISS133	PROTECT
0709	ISS133	PROTECT
0710	ISS133	PROTECT
0711	RGP10G	HEATING VOLTAGE REC
0713	ISS133	PROTECT

- WAVEFORMS C BOARD



• C BC
* MAR
KV-C
C-71

R737



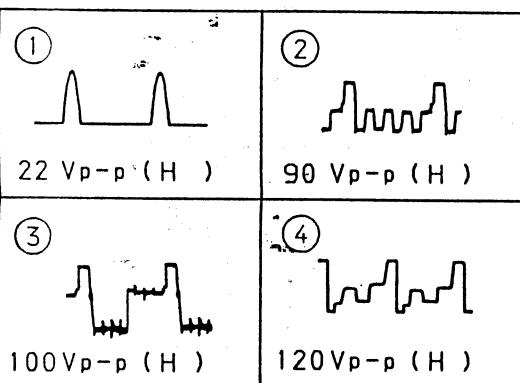
• V BOARD

IC1	S0A20162-A002	MICRO-CONT
IC2	SAA5246E	IVT
IC3	FCB61C65-70P	STATIC-RAM
Q1	DTCL114EK	STAND BY
Q2	2SD2096	5V REG
Q3	2SC2412K	SYNC BUFFER
Q4	2SC2712K	BLK OUT
Q5	MMST2907A	B OUT
Q6	MMST2907A	G OUT
Q7	MMST2907A	R OUT
Q8	2SC2412K	PON SW
Q1	MA3056M	5V REG
Q3	DAP202K	PROTECT
Q4	DAN202K	PROTECT
Q5	DAP202K	PROTECT
Q6	DAN202K	PROTECT
Q7	MA3036H	PROTECT
Q8	MA3036M	PROTECT

• C BOARD

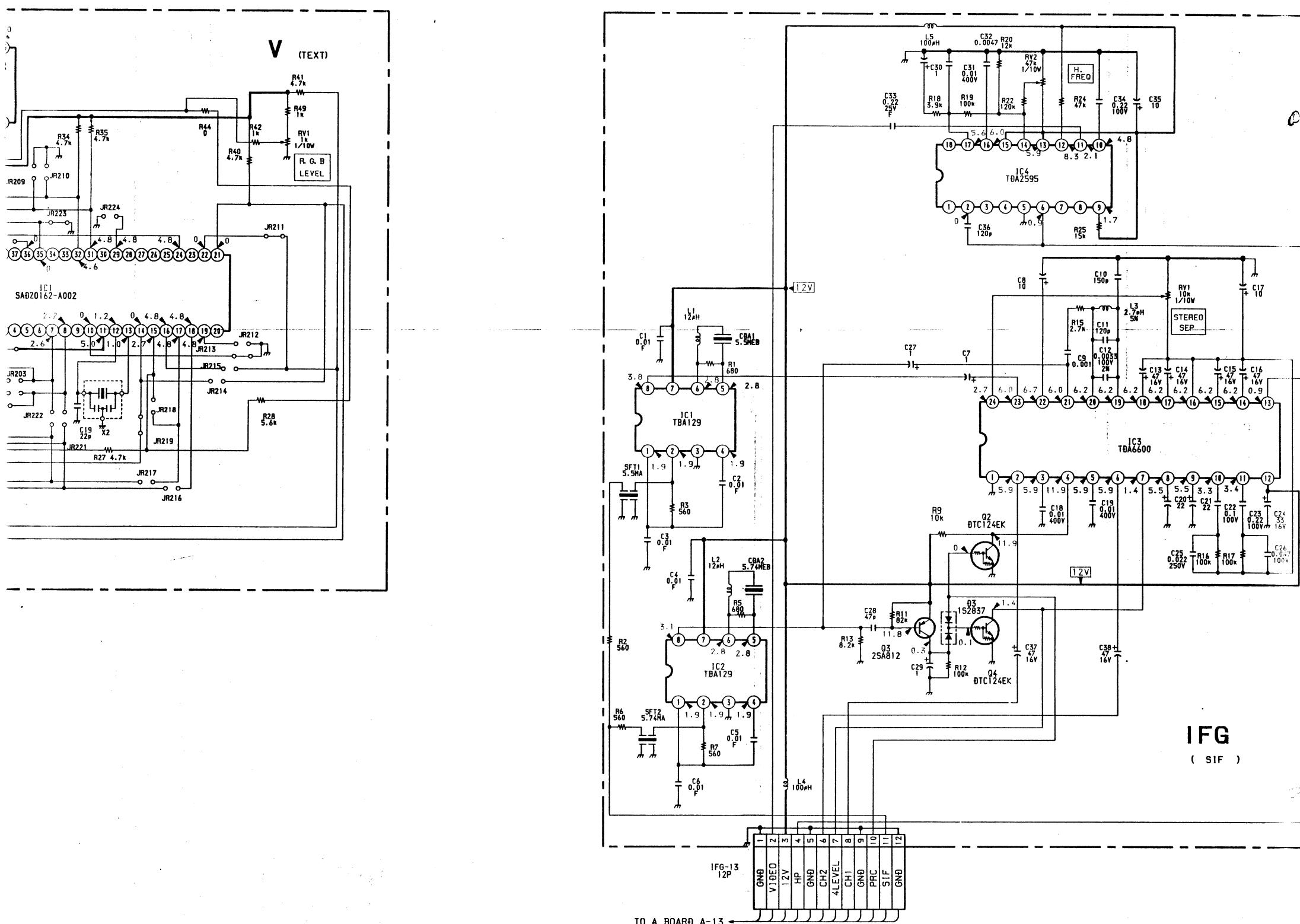
Q702	JC501	R DRIVE
Q703	BF871	R OUT
Q704	2SA10910	ACO MEASURING
Q705	JC501	G DRIVE
Q706	BF871	G OUT
Q707	2SA10910	ACO MEASURING
Q708	JC501	B DRIVE
Q709	BF871	B OUT
Q710	2SA10910	ACO MEASURING
0701	MTZJ9.1C	PROTECT
0702	ISS133	PROTECT
0703	ISS133	PROTECT
0704	ISS133	PROTECT
0705	ISS133	PROTECT
0706	ISS133	PROTECT
0707	ISS133	PROTECT
0708	ISS133	PROTECT
0709	ISS133	PROTECT
0710	ISS133	PROTECT
0711	RGP10G	HEATING VOLTAGE REC
0713	ISS133	PROTECT

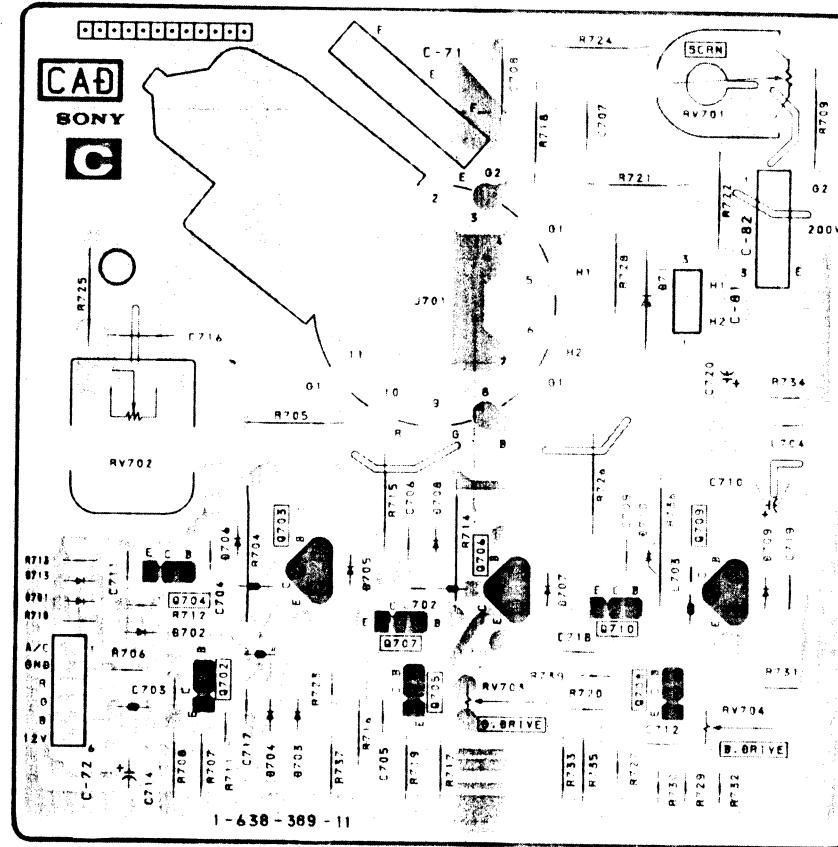
• WAVEFORMS C BOARD



• C BOARD
* MARK

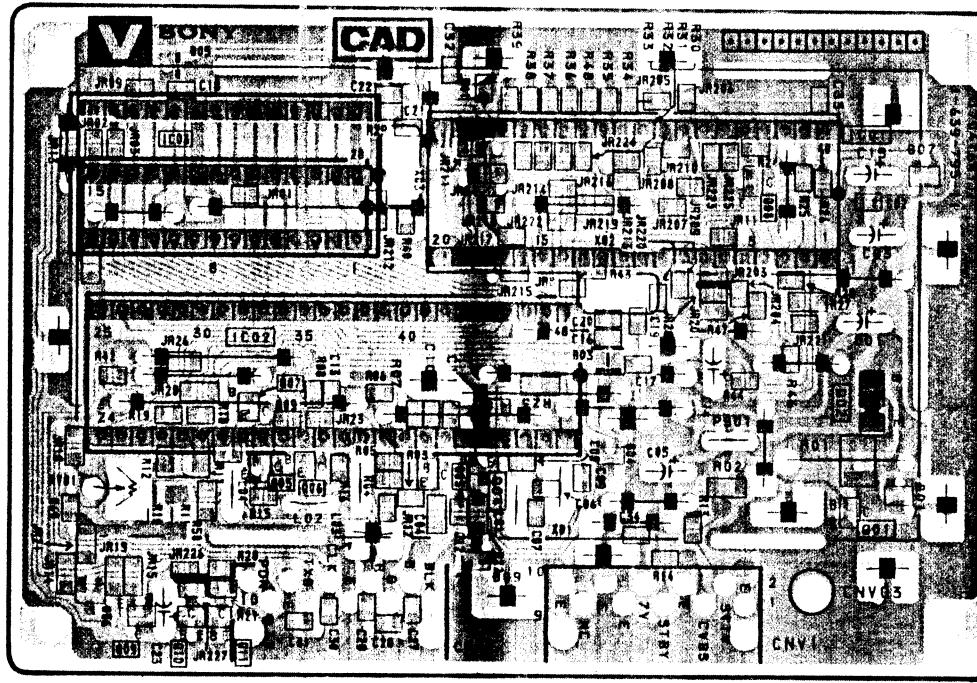
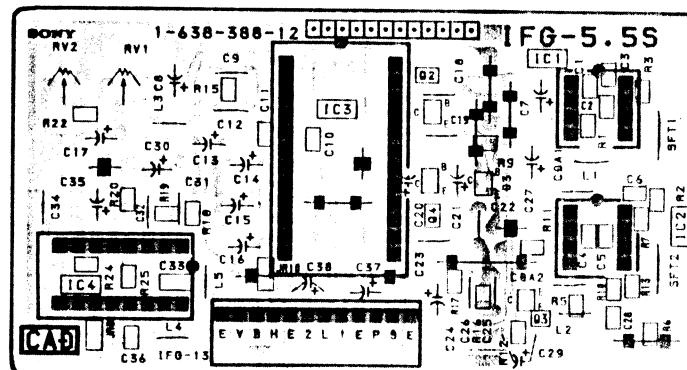
KV-C2551D	KV-C2951D
C-71 2P	C-71 3P
R737 820k	R737 470k



-C Board-

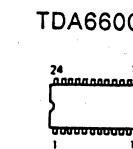
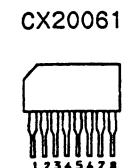
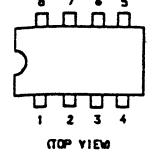
Note :

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

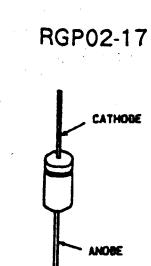
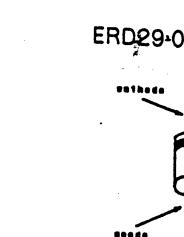
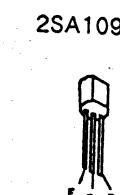
-V Board-**-IFG5.5S Board-**

5-4. SEMICONDUCTORS

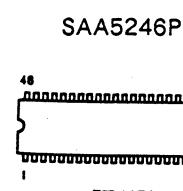
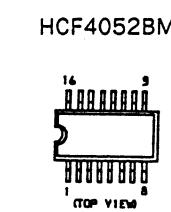
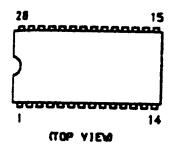
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RC4558P
SDA2546
TBA129
TEA2014A
TEA2031A



TEA7605
TYA7812CT
 μ PC24M05HF

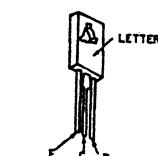


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SDA20162-A002
TDA4580-V6
TDA6200
TEA2028B



IN OUT

2SA1220A-P
2SC2688-LK



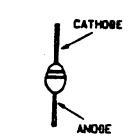
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DAN212K
MA152WK



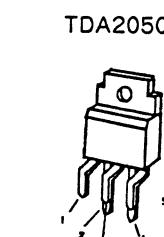
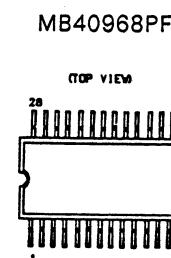
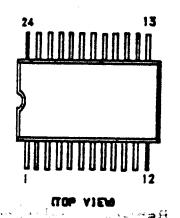
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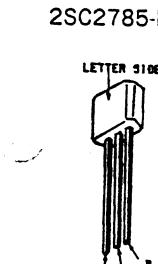
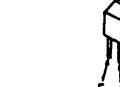
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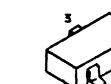
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BU508AS1H
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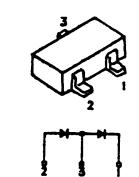


DAP202K
EGP20G

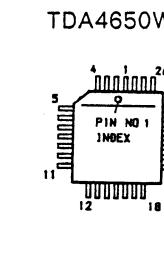
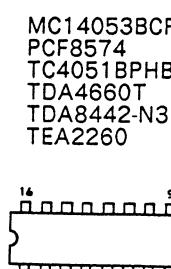
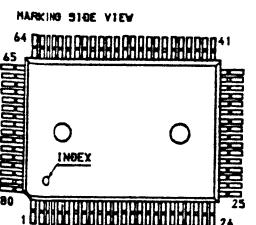


MTZJ-13B
MTZJ-15A
MTZJ-3.9B
MTZJ-33A
MTZJ-36D
MTZJ-6.2B
MTZN-10C
RD5.6ESB2
RD6.8ESB2
RD9.1ESB3
UZ-4.7BSC
1SS119

1SS226



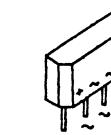
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DTC124EK
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2SA1162G
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2SC2412K-R

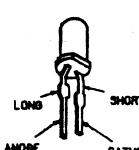
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D4SB60L-F

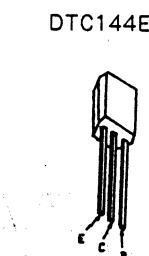
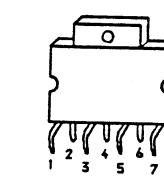
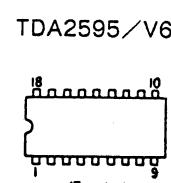
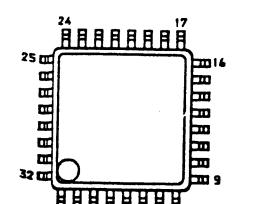


RD11M-B2
RD3.6M-B2
RD5.6M-B2
RD6.8M-B2

LD-201VR



CXK-1202Q



2SD2096-EF

ERC06-15S
RU-3AM

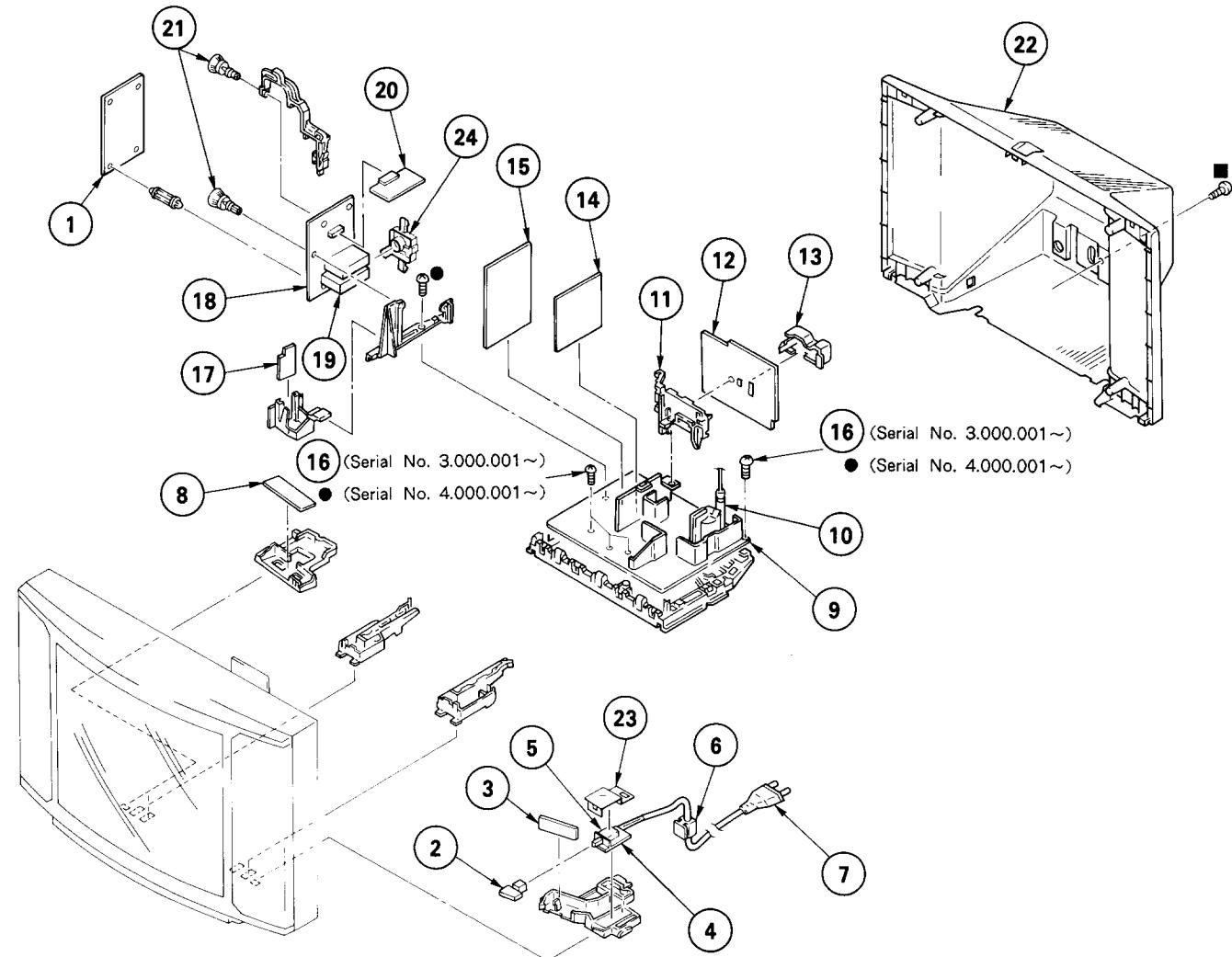


RD11M-B2
RD3.6M-B2
RD5.6M-B2
RD6.8M-B2



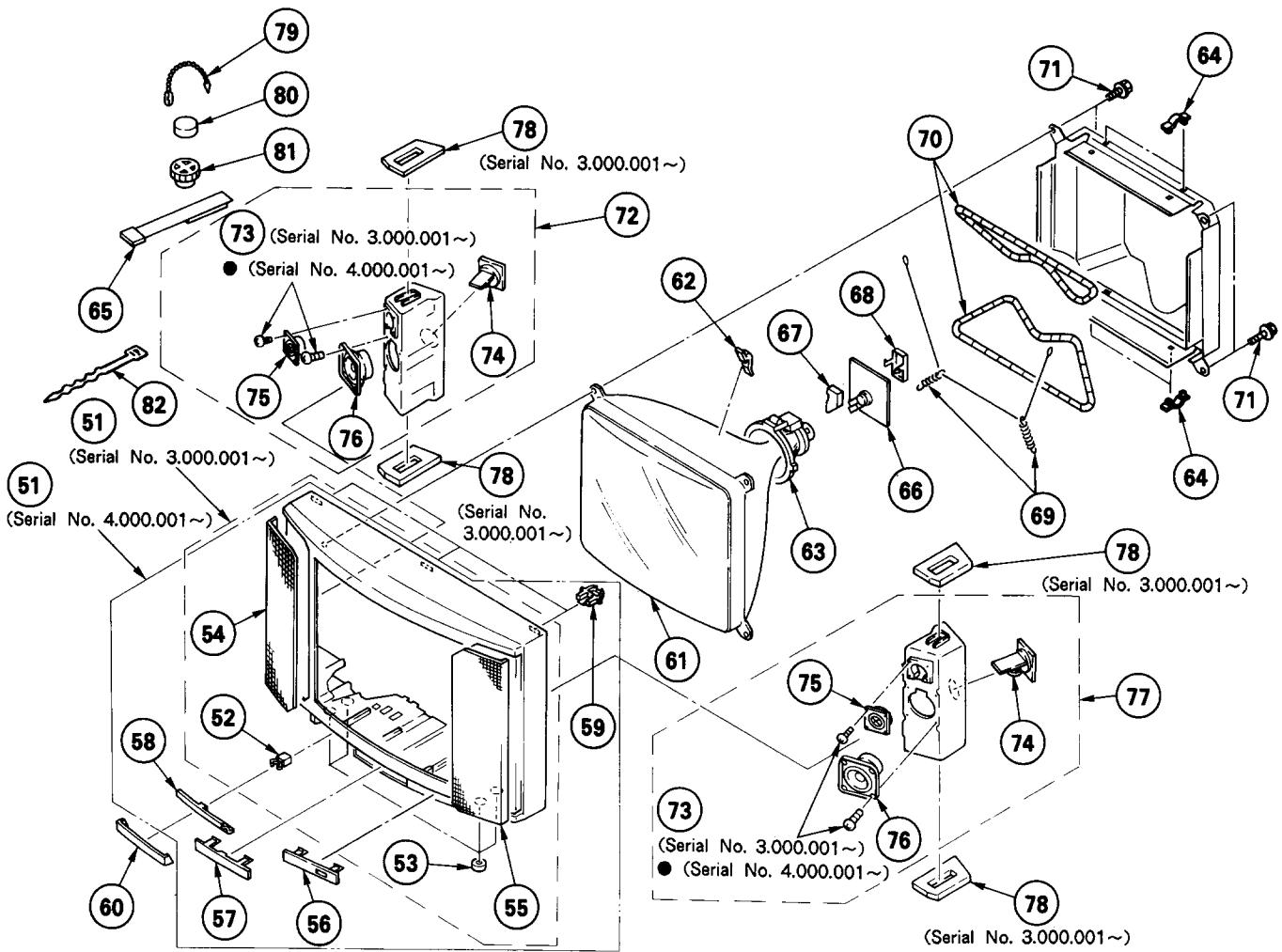
6-1. CHASSIS (KV-C2553E ONLY)

- : BVTP 3×12 7-685-648-79
- : BVTP 4×16 7-685-663-79



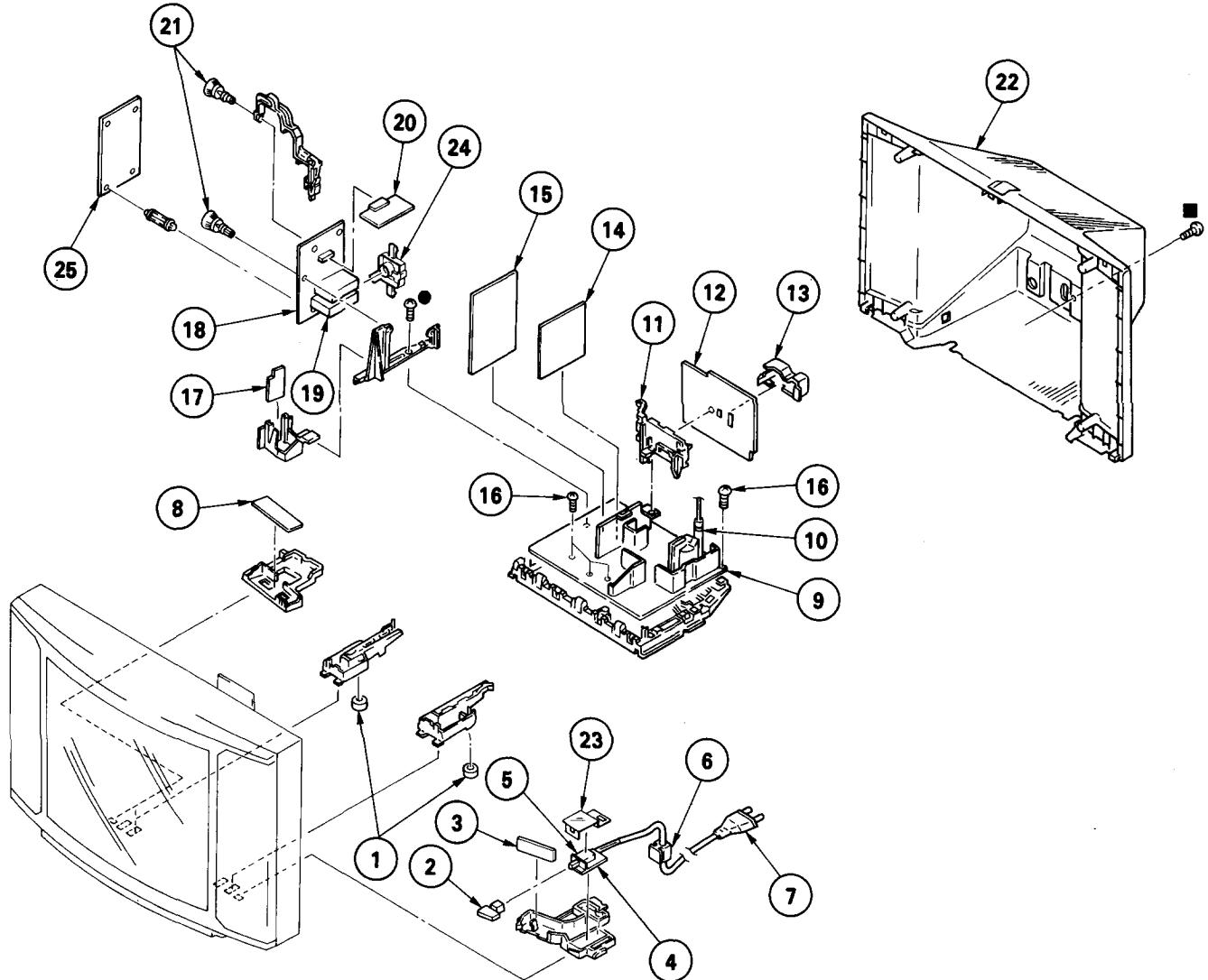
6-2. PICTURE TUBE (KV-C2553E ONLY)

● : BVTP 3×12 7-685-648-79



6-3. CHASSIS (KV-C2953E ONLY)

● : BVTP 3×12 7-685-648-79
■ : BVTP 4×16 7-685-663-79



6-4. PICTURE TUBE (KV-C2953E ONLY)

